

STANDARDS DEVELOPMENT BRANCH OMOE  
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# **MANUAL OF GUIDELINES AND PROCEDURES**

## **VOLUME 2**

**PART D - LAND USE**

**PART E - ENVIRONMENTAL ASSESSMENT**

**PART F - ABATEMENT AND APPROVALS**

**PART G - EMERGENCIES AND SPILLS**

**PART H - MISCELLANEOUS**

**LAST REVISION: DECEMBER 31, 1994**



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Ministry of Environment and Energy

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**STANDARDS DEVELOPMENT BRANCH**  
135 ST. CLAIR AVENUE WEST  
TORONTO, ONTARIO M4V 1P5

LAST REVISION: DECEMBER 31, 1994



Ontario

Manual of Guidelines and Procedures  
Ministry of Environment and Energy

**MANUAL OF GUIDELINES AND  
PROCEDURES**

**PART D - LAND USE**

**December 31, 1994**

## PART D - LAND USE

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**GUIDELINE D-1**  
**(formerly 07-03)**

**Land Use Compatibility**

**Legislative Authority:**

*Environmental Protection Act*, RSO 1990, Section 14

*Environmental Assessment Act*, RSO 1990, Section  
5(3)

*The Planning Act*, RSO 1990 Sections (a) (b) (c) (f) (g) (h), 17(9),  
22(3), 41(4) and 51(3)

*The Condominium Act*, RSO 1990, Section 50(3)

*The Niagara Escarpment Planning & Development Act*, RSO 1990,  
Section 9

**Responsible Director:**

Director, Environmental Planning Branch

**Last Revision Date:**

October 6, 1994

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## SYNOPSIS

This guideline identifies the direct interest of the Ministry in recommending separation distances and other control measures for land use planning proposals to prevent or minimize adverse effects from the encroachment of incompatible land uses where a facility either exists or is proposed. This guideline sets the context for all existing and new guidelines relating to land use compatibility.

The guideline is intended to apply only when a change in land use is proposed, however, compatibility concerns should be recognized and addressed at the earliest possible stage of the land use planning process for which each particular agency has jurisdiction. The intent is to achieve protection from off-site adverse effects, supplementing legislated controls.

The guideline encourages informed decision-making for Ministry staff, land use planning and approval authorities, and consultants. All land use planning and resource management agencies within the Province shall have regard for the implications of their actions respecting the creation of new, or the aggravation of existing, land use compatibility problems. Approving authorities (for example, Ministry of Municipal Affairs, Ministry of Consumer and Commercial Relations, and Municipalities) must accept responsibility for complaints and investigations when decisions are made and/or land use approvals are granted in contravention of this guideline.

Nothing in this guideline is intended to alter or modify the definition of 'adverse effect' in the *Environmental Protection Act*.

### 1.0 Introduction

#### 1.1 Legislative Authority

The primary legislative basis for this Guideline is Section 14(1) of the *Environmental Protection Act*, RSO, 1990. This Section states: "Despite any other provision of this Act or the regulations, no person shall discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect".

#### 1.2 Objective

The objective of this guideline is to minimize or prevent, through the use of buffers, the exposure of any person, property, plant or animal life to adverse effects associated with the operation of specified facilities (see definition for "facility" in Procedure D-1-3, "Land Use Compatibility: Definitions").



### **1.3 Procedures**

Procedure D-1-1, "Land Use Compatibility: Procedure for Implementation" identifies areas of responsibility for Ministry staff or the Delegated Authority, Municipalities and Other Planning Authorities and Proponents, and discusses various implementation approaches and tools. Procedure D-1-2, "Land Use Compatibility: Specific Applications" list Ministry and other agencies' documents which are specific applications of this guideline. Procedure D-1-3, "Land Use Compatibility: Definitions" provides definitions of terms.

## **2.0 Application**

### **2.1 Dual Nature of Guideline**

The guideline is applicable when:

- (a) a new sensitive land use is proposed within the influence area or potential influence area of an existing facility; and/or
- (b) a new facility is proposed where an existing sensitive land use would be within the facility's influence area or potential influence area.

### **2.2 Planning Activities**

This guideline applies when a change in land use places or is likely to place sensitive land use within the influence area or potential influence area of a facility, for the various situations listed below:

#### **2.2.1 Policies, Guidelines and Programs**

This guidelines applies for the formulation and review of land use policies, guidelines or programs.

#### **2.2.2 General Land Use Plans**

This guideline applies for the review of municipal and other levels of government general plans and proposals (e.g. municipal official plans and official plan amendments, municipal secondary plans, provincial resource management plans and other land use planning related matters).

#### **2.2.3 Site-Specific Plans**

This guideline applies for the review of site-specific development plans (e.g. plans of subdivision, plans of condominium, severances) including redevelopment and/or infill proposals.

## **2.3 Non-Applicable Situations**

### **2.3.1 Existing Incompatible Land Uses**

This guideline does not apply to situations where incompatible land uses already exist, and there is no new land use proposal for which approval is being sought. However, where feasible, the Ministry encourages the implementation of mitigation measures by the appropriate authority, at the earliest opportunity, to minimize existing compatibility problems.

NOTE: When there is a compatibility problem where both land uses already exist, matters may be subject to Ministry abatement activities if there is non-compliance with a Ministry issued Certificate of Approval (C of A) for the facility, or there is no C of A in place.

### **2.3.2 Compliance with Existing Zoning and Official Plan Designation**

This guideline does not normally affect a change in land use, an expansion, or new development, for either a facility or a sensitive land use which is in compliance with existing zoning, and the official plan designation, except for plans of subdivision and condominium and/or severances. In these exceptional situations, Ministry staff may require studies (see Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses, Sections 4.6, "Studies" and 4.7, "Mitigation"), and the identification of any necessary mitigative measures to prevent or minimize any potential 'adverse effects'.

There may be additional exceptional circumstances brought to staff's attention if a Certificate of Approval or other planning approval is required, where the Ministry would object if a sensitive land use would be subjected to adverse effects which could not be mitigated (e.g., land use change from single family residential to high rise, which would affect the point of impingement for air emissions, or when a change of industry is proposed with a completely different influence area).

If a proposed use is permitted in the official plan, but rezoning is required, or if both redesignation and rezoning are required, then this guideline shall apply.

NOTE: Although the guideline does not specifically address such matters, it is not intended to preclude the implementation of mitigation measures to minimize existing compatibility problems.

### **2.3.3 Emergency Situations**

This guideline does not deal with emergency situations, such as process upsets, the breakdown or malfunction of technical controls and/or spills. These are dealt with through other practices and legislation.

### **2.3.4 Federal Jurisdiction**

This guideline does not normally apply to lands owned or purchased by undertakings under federal jurisdiction. However, federal bodies may choose to comply with provincial laws and policies, or may be required to do so by federal law or by their own regulatory bodies.

A court may rule that there is no reason for federal facilities not to comply with local requirements, as long as these additional controls do not attempt to prohibit the undertaking.

As well, this guideline may apply to private undertakings on federal lands on a case-by-case basis.

### **2.4 Adverse Effects**

Depending upon the particular facility, adverse effects may be related to, but not limited to, one or more of the following:

- (a) noise and vibration;
- (b) visual impact (only for landfills under O. Regulation 347);
- (c) odours and other air emissions;
- (d) litter, dust and other particulates; and
- (e) other contaminants.

### **3.0 Guideline**

#### **3.1 Preferred Approach**

Incompatible land uses are to be protected from each other, in land use plans, proposals, policies and programs to achieve the Ministry's environmental objectives. Various buffers on either of the incompatible land uses or on intervening lands, as discussed in Section 4 of Procedure D-1-1, "Land Use Compatibility: Implementation", may be used to prevent or minimize 'adverse effects'. Distance is often the only effective buffer, however, and therefore adequate separation distance, based on a facility's influence area, is the preferred method of mitigating 'adverse effects'.

#### **3.2 Purpose of Separation Distance**

The separation distance should be sufficient to permit the functioning of the two incompatible land uses without an 'adverse effect' occurring. Separation of incompatible land uses should not result in freezing or denying usage of the intervening land. The distance shall be based on a facility's potential influence area or actual influence area if it is known. When development is proposed beyond a facility's potential influence area or actual influence area,

the Ministry shall not normally object to development on the basis of land use compatibility. Exceptional situations may be identified in documents for specific facilities which are listed in Procedure D-1-2, "Land Use Compatibility: Specific Applications".

### **3.3 Use of Land Within Separation Distance**

When the separation distance is the method of buffering, and the buffer area extends beyond a facility or sensitive land use site boundary, this Ministry encourages intervening land uses or activities that are compatible with both the facility and the sensitive land use(s).

Compatible land uses can vary on a case-by-case basis, and are identified for different facilities in documents listed in Procedure D-1-2, "Land Use Compatibility: Specific Applications".

Within the separation distance, municipal controls to increase zoning by-law setbacks for facilities or restrictions on location and use of outdoor storage could assist in achieving distance separation.

### **3.4 Irreconcilable Incompatibilities**

When impacts from discharges and other compatibility problems cannot be reasonably mitigated or prevented to the level of a trivial impact (defined in Procedure D-1-3, "Land use Compatibility: Definitions") new development, whether it be a facility or a sensitive land use, shall not be permitted. More details for specific facilities may be identified in other Ministry guidelines listed in Procedure D-1-2, "Land Use Compatibility: Specific Applications".

There may be situations and various means (see Procedure D-1-1, "Land Use Compatibility: Implementation", Section 7, "Methods") where development or redevelopment can be delayed or phased until such time that an 'adverse effect' would no longer exist (e.g. the facility ceases to operate or the problem is rectified by new technology).

**PROCEDURE D-1-1**  
(formerly referenced by 07-03)

**LAND USE COMPATIBILITY: PROCEDURE FOR  
IMPLEMENTATION**

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**PROCEDURE D-1-1****LAND USE COMPATIBILITY: IMPLEMENTATION**

**NOTE:** Nothing in this procedure is intended to alter or modify the definition of 'adverse effect' in the *Environmental Protection Act*.

Terms in italics (not including titles of Acts) are defined in Procedure D-1-3, "Land Use Compatibility: Definitions".

**1.0 RESPONSIBILITIES**

The main responsibility for identifying and implementing the necessary steps to make a development environmentally acceptable rests with the developer. As a result, the Ministry requests developers of land to provide information on potential or known constraints to development and based on that information, identify necessary remedial measures. The types of studies and remedial measures depend on the land in question and the use proposed for the land. Studies should be prepared by qualified professionals to the satisfaction of the Ministry.

**1.1 Ministry Staff or Delegated Authority**

When a change in land use will place sensitive land use(s) within the influence area/potential influence area of one or more facility, Ministry staff shall expect the proponent, along with the approving authority, to prevent land use conflicts.

Ministry staff or the delegated authority, when circulated, will provide comments to the approving authority on applications, planning documents, evaluations and studies. However, staff will not normally review reports in isolation of the development proposal or planning document.

**1.1.1 Commenting on Feasibility**

Ministry staff or the delegated authority will normally comment on the feasibility of a development proposal at the official plan amendment (OPA) or plan of subdivision/condominium stage. These are the areas of municipal plan review with which the Ministry is routinely involved.



### 1.1.2 Request for Studies

When staff question the feasibility of meeting Ministry objectives within the context of the particular development proposal, feasibility studies shall be required prior to the Ministry or delegated authority recommending draft approval for plans of subdivision/condominium or OPA approval. For more specific details concerning the requirement of studies, refer to the "Guide to Provincial Planning Applications" (MMA, OHBA, UDI - September, 1993).

In the case of plans of subdivision where feasibility is not in question, further studies will likely be required to determine which mitigative measures, if any, would be necessary to meet Ministry objectives. The approval authority shall require that these studies be performed, to the satisfaction of the Ministry, as a condition of draft approval. Staff shall not recommend final approval until such time as the Ministry is provided with assurances that the recommendations of said studies will be met, and there will not be significant impacts (i.e. an 'adverse effect' under the *Environmental Protection Act*, Section 14).

The Ministry or delegated authority shall also require implementation of any necessary mitigation measures as a condition of draft approval. Staff must then be satisfied that conditions are met before recommending final approval.

### 1.1.3 Technical Approvals Under Ministry Legislation

When appropriate, the Ministry shall issue technical approvals (i.e. Certificates of Approval) for emissions and/or controls under the *Environmental Protection Act* and the *Ontario Water Resources Act*, after the approving authority grants the land use approval.

## 1.2 Municipalities & Other Planning Authorities

The Ministry expects planning authorities within the Province to identify, separate and/or otherwise protect facilities and sensitive land uses (defined in Procedure D-1-3, "Land Use Compatibility: Definitions") through various means available to them (see Section 7 of this procedure, "Methods", for some details).

This guideline provides a framework which municipalities and other approving authorities may use to make their own informed decisions to reflect local conditions and the available planning mechanisms, including regulations, detailed policies, guidelines and studies.

Planning authorities are encouraged to ensure that the principles and objectives of Guideline D-1 entitled: "Land Use Compatibility", are applied in the formulation and review of matters identified in Sections 1.2.1 and 1.2.2.

Where approval is given for situations which are contrary to the intent and principles of Ministry Guideline D-1, "Land Use Compatibility" or any specific application including the Ministry policies and guidelines listed Procedure D-1-2, "Specific Applications, in the approving authority will be responsible for related complaints and investigations.

Approving authorities should not allow development to proceed where there are irreconcilable incompatibilities (i.e. *significant impact(s)* and no feasible remedial measures).

### 1.2.1 Land Use Plans, Policies, Guidelines & Programs

Consideration of this guideline is required for land use related plans, policies, guidelines and programs including but not limited to municipal official plans and amendments, municipal secondary plans, provincial resource management plans, and Ministry of Natural Resources District Land Guidelines on Crown Land.

### 1.2.2 Site-Specific Applications

Consideration of this guideline is required for development applications including zoning by-laws and amendments and variances, zoning orders, development permits, site plans, plans of subdivision and condominium and consents.

Since there is often no planning application circulated to the Ministry in the case of site specific development or *redevelopment*, the municipality or other approving authority should ensure that the principles of this guideline are adhered to.

### 1.2.3 Identify Need for Studies

The Ministry encourages Municipal official plan policies and where appropriate, policies of other plan approval agencies to indicate when studies for conflicts between *sensitive land uses* and various *facilities* are required, including feasibility studies, the timing or phasing-in schedule if applicable, and the party responsible for the preparation of the study. For details on the contents of studies, see **Section 2.0 of this Procedure, "Studies"**.

### 1.2.4 Identify Facilities and Influence Areas/Potential Influence Areas

Planning authorities are encouraged to prepare inventories of the location of all existing and *committed facilities* and the *influence areas/potential influence areas*, within their jurisdiction. See **Section 7.2 of this Procedure, "Inventories", for details.**

NOTE: It would also be advisable to include locations of former facilities, since decommissioning and clean up may be required. In such circumstances, the Ministry's "Materials Management Policy" and Guideline C-15: "Guideline for the Decommissioning and Cleanup of Contaminated Sites in Ontario" may apply.

### 1.2.5 Responsibility for Feasibility Studies

The Ministry recommends that municipalities be responsible for carrying out feasibility studies, with the proponent covering the costs of the studies.

### 1.2.6 Mitigation Implementation

The local municipality or other approving authority is responsible for approving mitigative measures, including design details and specifications, and for ensuring that required mitigation measures are implemented by the proponent.

In situations where the Ministry or delegated authority does not provide comments, approving authorities are encouraged to require that the proponent, as a condition of approval, provide mitigative measures at the draft plan stage.

## 1.3 Proponents

The proponent shall investigate the presence and severity of impacts, and propose any necessary remedial measures, including design details and specifications.

### 1.3.1 When Sensitive Land Use is Proposed

The proponent shall evaluate the proposal and provide evidence to the approving authority that a compatibility problem will not exist. The evaluation should be based on the nature of *facilities* (defined in Procedure D-1-3, "Land Use Compatibility: Definitions") in the vicinity that could have an impact on the proposed *sensitive land use(s)*, and the nature of the *sensitive land use(s)*. The purpose of the evaluation/study would be as follows:

#### (a) Evaluate Impacts

The proponent is responsible for evaluating the severity of impacts, both before and after mitigation, within the *facility or facilities influence area(s)* or *potential influence area(s)*, according to whether there will be a *trivial impact* (i.e. no *adverse effect*) or a *significant impact* (i.e. an *adverse effect*).

Information to be provided, and when necessary gathered from the local municipality, Ministry Regional or District Offices and other appropriate agencies, and utilized in the decision-making process may include but is not necessarily limited to:

- (i) nature of the sensitive land use;
- (ii) all existing and *committed facilities* within the study area, and those not within it but which would impact the study area;

- (iii) duration, timing and types of operational activities, shipping, receiving and other transport activities, and outputs/*contaminants* (e.g. noise, odour, dust/particulates, vibration) associated with the *facility* or *facilities*;
- (vi) distance of *sensitive land use* from *facility* or *facilities* or *facility/facilities influence area(s)/potential influence area(s)*;
- (v) hours of operation/normal use periods for both the *facilities* and *sensitive land use*;
- (vi) site plan details and building fenestration for *sensitive land use* (i.e. number, type and location of windows);
- (vii) wind patterns, topography and natural and man-made barriers/buffers (e.g. elevation, vegetation, walls, berms, ground and surface water); and
- (viii) any existing complaint history associated with the operation of *facilities* which would impact the *sensitive land use site*.

(b) **Identify/Implement Feasible Mitigation**

The proponent is responsible for proposing, designing and implementing mitigation, as required by the Ministry, delegated authority and/or approving authority (**See Section 4.0, "Mitigation"**). Mitigative measures can be located either at the *contaminant* source or elsewhere on the *facility* site, on the *sensitive land use site*, or on the site of an intervening land use. (**See Section 5.0, "Legal Agreements" also.**)

**1.3.2 When a Facility is Proposed**

(a) **Identify the Influence Area or Potential Influence Area**

The proponent is responsible for determining the *influence area* for a particular *facility* or a designated area, based on:

- (i) all components of the *facility's* operations/processes and transport activities (e.g. shipping and receiving or transporting) likely to generate *contaminant discharges* or other compatibility problems (e.g. visibility for landfills);
- (ii) the types and extent of outputs/*contaminants* (e.g. noise, odour, dust/particulates, vibration) associated with the *facility* - technical studies (see Section 2.0, "Studies") may be required;

- (iii) site plan details for the *facility*;
- (iv) the *facility's* building ventilation system;
- (v) the *facility's* building fenestration (i.e. number, type and location of windows);

In the absence of an analysis based on the above information, or alternatively, the proponent shall follow a generic approach and utilize the *potential influence areas* set out in other Ministry policies, guidelines and procedures which are specific applications of Guideline D-1 (see **Procedure D-1-2**).

**(b) Evaluate Impacts**

The proponent is responsible for evaluating the severity of impacts, both before and after mitigation, within the *influence area(s)* or *potential influence area(s)*, according to whether there will be a *trivial impact* (i.e. no *adverse effect*) or a *significant impact* (i.e. an *adverse effect*).

Information to be provided, and when necessary gathered from the local municipality, Ministry Regional or District Offices and other appropriate agencies, and utilized in the decision-making process may include but is not necessarily limited to:

- (i) distance from *sensitive land use(s)* and/or all existing and *committed sensitive land use* within the *facility's influence area* or *potential influence area*;
- (ii) land use designation/nature of *sensitive land use(s)*;
- (iii) hours of operation/normal use period for both the *facility* and *sensitive land use(s)*;
- (iv) wind patterns, topography and natural and man-made barriers/ buffers (e.g. elevation, vegetation, walls, berms, ground and surface water); and/or
- (v) complaint data from similar industries in the area.

**(c) Identify/Implement Feasible Mitigation**

The proponent is responsible for proposing, designing and implementing mitigation, as required by the Ministry, delegated authority and/or approving authority (**See Section 4.0, "Mitigation"**). Mitigative measures can be located either at the *contaminant* source or

elsewhere on the *facility* site, on the *sensitive land use site*, or on the site of an intervening land use. (See Section 5.0, "Legal Agreements" also.)

## 2.0 STUDIES

Studies should be provided by the proponent to the approving authority. Refer to Section 1.1.2 of this Procedure to determine when Ministry staff will require the proponent to carry out studies.

### 2.1 Types of Studies

The types of studies required may vary with the particular facility involved. Specific requirements are included in the various documents listed in Procedure D-1-2, "Land Use Compatibility: Specific Applications".

### 2.2 Study Exemptions

Formal studies normally will not be required for a *land use proposal* where the Ministry or the delegated authority and/or the approving authority is satisfied that the evaluation of existing data indicates that there will not be a compatibility problem. For example, complaint data for existing *facilities* which may be available in Regional and/or District Offices and/or field inspections can often indicate the *influence area*, precluding the need for detailed studies.

## 3.0 COSTS

The costs of studies and mitigation, where an existing land use is in compliance with government legislation, regulations, codes and standards, is normally the responsibility of the proponent of the new development. See Sections 1.3.1 (b) and 1.3.2 (c) "Identifying/Implementing Feasible Remedial Measures" for more details.

## 4.0 MITIGATION

### 4.1 Purpose of Buffers

*Buffers* are used to minimize or prevent *adverse effects* associated with *facilities*. *Buffers* are not a substitute for legislated controls at the *facility* source which deal with difficult to contain *discharges* and other compatibility problems. In many cases *buffers* cannot be expected to eliminate all conflicts, but should reduce the *contaminant discharges* and other compatibility problems to the *trivial impact* level.

## 4.2 Types of Buffers

In addition to *separation distance*, *adverse effects* may be able to be minimized or prevented at the site specific planning stage by incorporating other buffering techniques. Other types of *buffers*, on a case-by-case basis, may include berms, walls, fences, vegetation, and/or location and orientation of buildings and activity areas. This list is not all-inclusive, and one or a number of combinations might be used to achieve the desired results.

## 4.3 Effectiveness

Land use separation and other mitigation measures are to be based on the *facility's* scale and design, and the duration, frequency and the type of *discharges/impacts*.

To be effective, a *buffer* must be appropriately designed, constructed and maintained, bearing in mind the overall intended purpose. The *buffer(s)* should permit the normal functioning of the two incompatible land uses without conflict.

The following are some more specific considerations for *buffers*:

### 4.3.1 Noise & Other Air Contaminants

*Buffers* which may be satisfactory for the control of noise may not be adequate for dust, odours, or gaseous air contaminants. A berm or wall will usually have little or no effect on these, and distance is often the only effective *buffer*.

It should be noted also that narrow strips of plantings, trees or shrubs, and privacy fences have little or no actual effect with regard to the reduction of noise or air pollution. These buffers may provide limited benefit, however, if they screen the source from view, and reduce the perceived impact.

### 4.3.2 Site Planning

Site plan design/orientation of *facilities* or *sensitive land uses* should take into account the *contaminants* and *discharges* associated with the operation of the *facility*. These may include such things as: smoke, noise, dust and odour generated by loading and unloading of trucks, odours from process venting and any on-site waste receptacles. The degree of impact may be affected by site-specific topography, building layout and massing, the direction of prevailing winds and possibly vegetation, among other matters.

### 4.3.3 Operational Procedures

General 'housekeeping' practices, such as outdoor storage of waste materials in closed containers to control odours, litter and/or dust, can also reduce *discharges/impacts* on surrounding land uses.



## 5.0 LEGAL AGREEMENTS

When mitigative controls are to be installed on surrounding properties, the local municipality or other approving authority should require an agreement between the developer and the affected property owners, to ensure mitigation of *discharges* to established/acceptable Ministry standards.

When this Ministry or the delegated authority has required the mitigative controls, the legal agreements between the developer and other affected parties to ensure the installation and maintenance of adequate measures on surrounding properties should be reviewed and endorsed by Ministry staff or the delegated authority prior to development approval.

NOTE: There are no provisions under the *Planning Act* to impose the requirement for agreements on surrounding lands where no planning approvals are required.

## 6.0 FINANCIAL ASSURANCE

Bonds or other financial assurance should be required by the approving authority to ensure that mitigation will be satisfactorily carried out by the proponent.

## 7.0 METHODS

There are numerous means and approaches available to assist planning authorities in achieving compatibility among land uses within their jurisdiction (the *Planning Act* in particular provides some useful tools). The following provides some examples:

### 7.1 Policies and Principles

The Ministry recognizes that a municipal official plan is the main instrument for expressing general planning policies. Municipalities are required to have official plans in place. To be most effective, the Ministry recommends that the principles of Guideline D-1, "Land Use Compatibility" be incorporated into the official plan when it is being prepared or updated.

The Ministry recommends that *land use compatibility* policies and principles be included in the official plan, and reflected in a land use schedule, for incorporation in zoning by-laws, secondary plans and other planning documents. More specific policies, as set out in documents listed in **Procedure D-1-2, "Specific Applications"**, may also be included to identify planning considerations and/or procedures for particular types of *facilities*.

Other plan approval authorities as well should include appropriate *land use compatibility* policies in planning documents (e.g. resource management plans), with a view to identifying



and rectifying existing areas of incompatibility where feasible, and to guide new development and *redevelopment* in accordance with **Guideline D-1, "Land Use Compatibility"**.

## 7.2 Inventories

The Ministry recommends that municipalities and other planning agencies maintain inventories of the location of all existing, *committed* and former *facilities* within their respective jurisdictions. The information should be provided on some form of scaled map (e.g. official plan schedules, neighbourhood plans, MNR District Land Guidelines, aerial photographs), and be easily accessible to the public.

## 7.3 Influence Areas/Potential Influence Area

The Ministry recommends that the *influence area*, or where an *influence area* has not yet been determined on a site-specific basis, the *potential influence area* outlined in various documents which deal with particular types of *facilities*, (see **Procedure D-1-2, "Specific Applications"**) be identified and delineated on a scaled map at an early stage in the land use planning process. An example of how this may be done for *industrial facilities* is illustrated in **Diagram No. 2 of Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses"**. Sections 4.2.2, "Determining Permitted Uses within Industrial Land Use Designations" and 4.2.3, "Existing and Committed Industrial Land Use" of **Guideline D-6** which deal with industrial facilities may provide further guidance for dealing with other facilities as well.

When a new *facility* or an expansion to an existing *facility* is proposed, or conversely when *sensitive land use* is proposed, particular attention must be paid to ensure there will not be a compatibility problem with those land uses that fall within the facility's *influence area/potential influence area*.

## 7.4 Zoning By-Laws

Zoning can be used separately, or in conjunction with Site Plan Control (See **Section 7.6, "Site Plan Control"**). The Ministry recommends that zoning by-laws and amendments to them regulate land uses so that future permitted uses will be compatible within the *influence area(s)/potential influence area(s)* of nearby *facilities*, and vice versa.

The municipality may apply traditional 'interim' zoning methods, such as the use of a non-development zone, where the municipality does not have holding provisions (see **Section 7.7, "Holding Provisions"**), the situation is not suitable for holding provisions, or the ultimate use of lands within an area formally undergoing transition is unclear or unknown.

On-site *buffers* could be required by a municipality through zoning by-law setback requirements, but this approach may not be practical, as the provision of very deep lots would likely be necessary. The use of other forms of mitigation (see **Section 4.2, "Types of**

**Buffers**") may have to wait until a specific *facility* and/or *sensitive land use* has been identified for the zoning in place.

## 7.5 Subdivisions, Condominiums and Consents

The Ministry recommends that plans of subdivision/condominium and consents to sever, located within the *influence area/potential influence area* of a *facility* only be permitted if there are no compatibility problems, or if the proponent can demonstrate how incompatibilities will be satisfactorily mitigated to the level of a *trivial impact*. The concerns for *land use compatibility* would be in addition to other factors that are normally considered by the Ministry or delegated authority in the overall decision for approval of a land use. The same restrictions should apply when a *facility* is proposed which would impact on these land uses.

## 7.6 Site Plan Control

Site Plan Control under Section 41(2) of the *Planning Act, R.S.O. 1990* may be used separately or in conjunction with zoning (see **Section 7.4, "Zoning By-Laws"**) to determine practical approaches for mitigation on a specific development proposal, if a site plan control area is shown or described in an approved official plan (see **Section 7.1, "Policies and Principles" for information on official plans**). The *Planning Act*, Section 41(7)(a) 6-9 inclusive provides a number of useful planning tools to deal with *land use compatibility* concerns through Site Plan Control.

Site Plan Control requires the preparation of detailed site specific development plans, and enables the review of such matters as building location and massing, access, outdoor storage, park land, walkways, landscaping, grading and external non-design features. Detailed architectural controls, however, such as type of building materials, window details or interior design, are excluded from Site Plan Control (and are normally only considered with the building permit application). As well, Site Plan Control cannot be used to regulate the general use of land; it can only be used to establish on-site physical conditions such as setbacks or site plan layout.

Plans showing the location of all buildings and structures, including such things as walls and fences for either a *facility* site or a *sensitive land use* site can be used to require any necessary on-site distance setbacks. The massing and conceptual design of buildings may be used to mitigate *adverse effects*. For example, Site Plan Control could be used as a noise control tool in locating facilities so that noisy operations are shielded by other equipment or structures, or in locating buildings so that outdoor living areas are shielded. It should be noted that trees, shrubs and other plant material do little to attenuate noise.

Site Plan Control should not be used for requiring large studies which may necessitate a change in land use - in this respect the principle of development is determined and established in the official plan (i.e. the official plan determines land use).

It should be noted also that Site Plan Control is not applicable to all developments, even though they may be within a site plan control area. The local municipal council may designate the whole or any part of an area shown or described in an official plan as a proposed site plan control area. Accordingly, when an opportunity arises, the Ministry shall encourage municipalities to adopt site plan control for all land uses, and residential in particular, in areas of site plan control.

### 7.7 Holding Provisions

Where the local municipality knows precisely what uses will be developed in future, the municipality may institute holding provisions to accommodate phased development. The holding symbol "H" freezes transition from the current use of land to a future use, until such time as certain conditions are met.

It should be noted that holding symbols cannot be applied unless there are enabling official plan policies in place. The official plan policies must outline the objectives or reasons for using the holding provision. As well, the municipality must have provisions for implementation through the use of zoning by-laws which specify permitted interim uses prior to the removal of the "H".

Permitted uses and setbacks would have to be determined at the time the original zoning was established, and could only be altered through rezoning. The "H" could be lifted once conditions are satisfied.

As the Ministry has no control over when the "H" may be lifted, staff should only recommend the use of the holding symbol where there are not *significant impacts*, and a legal agreement (see Section 5.0, "Legal Agreements") is in place to ensure mitigation.

## 8.0 COMPATIBILITY EXAMPLES

The chart below shows very simplified examples of compatibility ratings for different types of *facilities* and *sensitive land uses*.

### Facility Compatibility Rating Comments

Transportation possible with conditions subject to meeting Ministry criteria/standards with use of Corridors buffers (e.g. noise)

Class I Industrial not recommended may be possible depending upon nature of industry and effective mitigation

Class II Industrial poor occasional noise; frequent dust, odour - often intense

Class III Industrial incompatible frequent noise, ground borne vibration; intense & persistent dust, odour

## 9.0 REFERENCE DOCUMENT

1. "Guide to Provincial Planning Applications", Ministry of Municipal Affairs/Ontario Home Builders Association/ Urban Development Institute, September 1993.

**PROCEDURE D-1-2**  
(formerly referenced by 07-03)

**LAND USE COMPATIBILITY:**  
**SPECIFIC APPLICATIONS**

**Last Revision Date:**

October 11, 1994

## LAND USE COMPATIBILITY: SPECIFIC APPLICATIONS

### A. MINISTRY DOCUMENTS:

1. Guideline D-2, "Compatibility Between Sewage Treatment Facilities and Sensitive Land Use"
2. Guideline D-4, "Land Use On or Near Landfills and Dumps"
3. Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses"
4. Draft "Integrating MOEE Objectives into Municipal Official Plans" (January, 1993)
5. Publication LU-131, "Noise Assessment Criteria in Land Use Planning"
6. Policy No. PC-0005, "Policy to Govern the Spray Irrigation of Treated Sewage on to Recreational Lands" (June 1, 1980)

### B. OTHER AGENCIES' DOCUMENTS:

1. Agricultural Code of Practice (OMAF, MOEE, MOH)
2. Guidelines on Noise and New Residential Development Adjacent to Freeways (Ministry of Housing, April 1979)
3. Land Use Policy Near Airports (Ministry of Housing, March 1987)
4. Aggregate Resources Act and Final Report of the Interministerial Committee on Pits and Quarries (MMA/MOEE/MNR, September, 1983)\*
5. Provincial Flood Plains Planning Policy (MNR, 1988)

\*The influence area for pits and quarries is determined by the Ministries of Environment & Energy and Natural Resources on a case-by-case basis. For new operations, the influence area is to be determined by appropriate studies (e.g. noise, dust, vibration, hydrogeological) carried out in support of the applications for licensing or land use approvals. With respect to encroachment of other sensitive land uses upon existing pits and quarries and undeveloped resource areas, the influence area shall either be established by similar studies or in lieu of these studies, the municipality shall apply setbacks from pits and quarries and undeveloped resource areas as specified in Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses".

**PROCEDURE D-1-3**  
(formerly referenced by 07-03)

**LAND USE COMPATIBILITY: DEFINITIONS**

**Last Revision Date:**

October 11, 1994

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## DEFINITIONS

### Adverse Effect

Means one or more of:

- (i) impairment of the quality of the natural environment for any use that can be made of it,
- (ii) injury or damage to property or to plant or animal life,
- (iii) harm or material discomfort to any person,
- (iv) an adverse effect on the health of any person,
- (v) impairment of the safety of any person,
- (vi) rendering any property or plant or animal life unfit for use by man,
- (vii) loss of enjoyment of normal use of property, and
- (viii) interference with the normal conduct of business.

### Amenity Area

An outdoor space or facility that is used for the enjoyment of persons residing in or utilizing any building(s) on the property/pre mises.

### Buffer

A method of control used to prevent or minimize the adverse effects of incompatible land uses and may be in the form of:

1. a land area or intervening space sufficient to provide the necessary distance separation; or
2. a natural or man-made feature such as a berm, wall, barrier, planting, topography, trench, fence or other structure or technical control (e.g. solid brick walls, triple-glazed windows to lessen the effect of noise, an active or passive gas venting system); or
3. a land use different from the 2 conflicting ones but compatible with each; or

4. any combination of the above, interposed between conflicting land uses.

### **Buffer Area**

The air, land and/or water between a 'facility' and nearby 'sensitive land use', where land use controls are used to prevent or minimize 'adverse effects'. It can be of variable size, shape and composition to produce the desired results and apply to all or part of an 'influence area'. A 'buffer area', depending upon the circumstances, may be on or off site, or both.

### **Class I Industrial Facility**

A place of business for a small scale, self contained plant or building which produces/ stores a product which is contained in a package and has low probability of fugitive emissions. Outputs are infrequent, and could be point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration. There are daytime operations only, with infrequent movement of products and/or heavy trucks and no outside storage. See Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

### **Class II Industrial Facility**

A place of business for medium scale processing and manufacturing with outdoor storage of wastes or materials (i.e. it has an open process) and/or there are periodic outputs of minor annoyance.

There are occasional outputs of either point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration, and low probability of fugitive emissions. Shift operations are permitted and there is frequent movement of products and/or heavy trucks during daytime hours. See Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

### **Class III Industrial Facility**

A place of business for large scale manufacturing or processing, characterized by: large physical size, outside storage of raw and finished products, large production volumes and continuous movement of products and employees during daily shift operations. It has frequent outputs of point source and fugitive emissions of significant impact and there is high probability of fugitive emissions. See Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

**Committed Land Use**

A land use in accordance with federal, provincial or municipal plans, by-laws and/or zoning orders, which has been approved by the regulatory authority, but is not yet existing.

**Compatible Land Use**

An existing or committed land use or activity that can co-exist with a neighbouring use/activity or uses/ activities, without either creating or experiencing 1 or more off-site 'adverse effect(s)'.

**Contaminant**

Means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that may cause an adverse effect.

**Discharge**

When used as a noun, includes addition, deposit, emission or leak.

**Facility**

A transportational, commercial, industrial, agricultural, intensive recreational or utilities/services building or structure and/or associated lands (e.g. abattoir, airport, railway, sewage treatment plant, landfill, manufacturing plant, generation stations, sports/concerts stadium, etc.) which produce(s) one or more 'adverse effect(s)' on a neighbouring property or properties. For specific details on some of these facilities, see Procedure D-1-2.

**Fugitive Emissions**

Reasonably expected/predictable contaminant occurrences associated with normal operational practices and procedures (e.g. materials handling or outdoor storage) of industrial facilities, which are generally difficult to practically control at the source or on-site. These emissions are not point sources (i.e. not from stacks or vents). Fugitive emissions<sup>1</sup> are from all other sources. These emissions may include odour, noise, vibration and particulate such as dust. Emissions from a breakdown are also not considered "fugitive". Breakdown emissions would be covered under a C of A contingency plan, or are considered to be a "spill".

**Industry, Industrial Land Use or Industrial Facility**

A facility or activity relating to: the assemblage and storage of substances/goods/raw materials; their processing and manufacturing; and/or the packaging and shipping of finished products.

**Infilling**

Development on vacant lots or underdeveloped lots within a built-up area.

**Influence Area/Potential Influence Area**

The area(s) at, above or below grade, associated with a 'facility' that is subject to one or more 'adverse effect(s)' which may be of varying duration, frequency and distance of disposal. This is an actual 'influence area'. A 'potential influence area' identifies where adverse effects are generally expected to occur. An 'influence area' or 'potential influence area' acts as a potential constraint for 'sensitive land use', or conversely on the establishment of a 'facility', unless evidence is provided that 'adverse effects' are not a problem, or can be satisfactorily mitigated to the level of 'trivial impact'.

**Land Use Proposal**

This may be a guideline, procedure, program or a general or site-specific plan that is being brought forward by a proponent for consideration by plan review agencies and the approving authority.

**Land Use Compatibility**

A recognized factor and principle of good land use planning, whereby land uses which are known or expected to cause environmental problems for one another, when in proximity, are deemed incompatible and are protected from one another by separation and/or other means.

**Proposed Land Use**

A land use which is being put forward for consideration for an official plan amendment, a zoning by-law amendment or a zoning amendment on a site-specific basis.

**Redevelopment**

Where existing land uses are being phased out and replaced by another type of designated land use as part of a land use plan or proposal which has been substantiated by studies and is in accordance with a municipal official plan guideline or other formally approved plan.

**Sensitive Land Use**

A building, 'amenity area' or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more 'adverse effect(s)' from contaminant discharges generated by a nearby 'facility'. The 'sensitive land use' may be a part of the natural or built environment. Depending upon the particular 'facility' involved, a sensitive land use and associated activities may include one or a combination of:

- (i) residences or facilities where people sleep (e.g. single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). These uses are considered to be sensitive 24 hours/day.
- (ii) a permanent structure for non-facility related use, particularly of an institutional nature (e.g. schools, churches, community centres, day care centres).
- (iii) certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g. trailer park, picnic area, etc.).
- (iv) certain agricultural operations (e.g. cattle raising, mink farming, cash crops and orchards).
- (v) bird/wildlife habitats or sanctuaries.

### **Separation Distance**

The linear measurement between a 'facility' property/properties and a 'sensitive land use/uses'. The distance should be adequate to minimize or prevent the 'adverse effects' of one land use upon the other, so that at most there would only be a 'trivial impact'.

### **Significant Impact**

Where contaminant discharges cause or are likely to cause an 'adverse effect' under the *Environmental Protection Act*, R.S.O. 1990, Section 14.

In determining whether an 'adverse effect' will occur, the timing and magnitude of contaminant discharges should be related to the 'sensitive land uses' normal use period(s).

### **Trivial Impact**

Present or predictable contaminant discharges which are or are likely to be so minor that there would not be an 'adverse effect'.

In determining whether an impact will be "trivial", the timing and magnitude of contaminant discharges should be related to the 'sensitive land uses' normal use period(s).

**GUIDELINE D-3**  
**(formerly 07-06)**

**Environmental Considerations for Gas or Oil Pipelines and  
Facilities**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Sections 5,14,27,46, and 91-123*

*O. Regulation 347, General -- Waste Management*

*O. Regulation 346, General -- Air Pollution*

*Ontario Water Resources Act, RSO 1990,*  
*Sections 30(1)(2), 34(3)(c), 34(4), and 53(1)*

*Pesticides Act, RSO 1990, Sections 7,27 and 28*

*Environmental Assessment Act, RSO 1990 Section 3*

**Responsible Director:**

Director, Environmental Planning Branch

**Last Revision Date:**

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## SYNOPSIS

This guideline identifies the environmental interests of the Ministry in proposals for new, expanded or upgraded gas or oil pipelines and facilities in Ontario, which proponents have submitted to the Ontario Energy Board (OEB) and/or the National Energy Board (NEB) for approval. It outlines the environmental considerations that the Ministry advises the OEB and/or the NEB to take into account when they give approval to gas or oil pipelines and facilities under their jurisdiction.

All gas or oil pipelines and facilities which do not require approval by the OEB or NEB are subject to applicable provincial legislation and regulations, including appropriate approval requirements. This guideline informs proponents of the requirements that the Ministry may require them to meet in this connection.

This document also provides guidance to Ministry staff commenting on pipeline proposals being reviewed under the OEB and/or NEB, or proposals which pipeline companies or others have submitted directly to the Ministry for review. It also sets the context for all existing and new guidelines and procedures related to gas and oil pipelines. The intent is to achieve a reasonable degree of protection for the environment by ensuring that proponents incorporate the necessary safeguards early in planning, and then implement them during construction and operation of these facilities. This guideline should be used in conjunction with the "Environmental Guidelines for Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario" (OEB 1989, as amended).

The Environmental Planning Branch and Ministry Regional Offices will implement this guideline in the course of preparing and co-ordinating comments on gas and oil pipeline proposals.

### 1.0 Introduction

The objectives of the guideline are to:

- a) minimize any potentially significant, adverse environmental effects from the construction and operation of proposed oil or gas pipelines and facilities;
- b) ensure appropriate environmental considerations are taken into account at an early stage in their planning and then implemented; and
- c) identify the legislation and approvals which may apply to activities associated with oil or gas pipelines and facilities

### 2.0 Definitions

**Compressor Station:**

Usually consists of a reciprocating or turbine type compressor powered by an electric, internal combustion or jet turbine engine which maintains the desired operating pressure within the pipeline system and moves the gas or oil

**Dewatering:**

The removal of impounded water or groundwater from the construction area during trenching

**Facilities:**

Stations (e.g., valve, compressor and metering) which move, store, regulate and meter the natural gas or oil, and includes underground storage pools for storing large inventories of gas

**Hydrostatic Testing:**

A procedure undertaken to test the engineering integrity of the pipeline by pumping water in at high pressure for a specified period of time to identify any leaks prior to putting the pipeline in service

**Sediment:**

Solid or soil-like material at the bottom of a watercourse or waterbody

**3.0 Application of the Guideline**

The guideline applies to all proposals for new, expanded or upgraded oil or gas pipelines and facilities in Ontario. It shall apply to all aspects of new or expanded pipelines and facilities, including their planning, design, construction, operation, maintenance and removal. The scope of the guideline includes all gas or oil pipeline-related activities, reviewed by the Ministry, for which Ministry advice is invited. Such requests are made primarily by pipeline companies, and most of these requests for review involve an application by the pipeline company to the Ontario Energy Board (OEB) and/or the National Energy Board (NEB).

**3.1 Considerations within Direct Interest of the Ministry****Water Quality/Quantity:**

Surface and groundwater quality and quantity, including water in lakes, rivers, streams, wetlands and in the subsurface, as related to such activities as water crossings, blasting, dewatering, and hydrostatic testing of pipelines (and as it relates to permits to take water, diversions, and discharge treatment requirements).

**Erosion and Sedimentation:**

Erosion and sedimentation controls and other practices for managing surface runoff and water crossings, to prevent entry of contaminants into water bodies, including proper discharge of hydrostatic test water and proper siting and disposal of excess fill and excavated material.

**Sewage and Water Systems:**

Sewage treatment and water supply systems, including individual sewage system interference and individual water well interference.

**Waste Management:**

Management of waste materials, including those from construction (e.g., excess oil and fuel), excavation (e.g., contaminated sediments/soils, non-operating and/or operating landfills) and operation.

**Sediment and Soil Contamination:**

Sediment and soil contamination, including potential sources, proper containment, clean-up and disposal of contaminants.

**Air Quality:**

Air quality management, including the control of odour, dust and other contaminants during construction, operation (e.g., compressor stations) and contingency activities.

**Noise and Vibration:**

Noise and vibration during construction including blasting and during operation of facilities (e.g., compressor stations).

**Land Use:**

Incompatible or conflicting land uses which affect or are affected by pipeline proposals (these include: operating or non-operating landfill sites; existing or closed industrial sites both on or adjacent to the right-of-way and/or upstream of a watercrossing; and residences which might suffer adverse impact from noise and/or interference with water wells.

***Environmental Assessment Act:***

Undertakings subject to the *Environmental Assessment Act*, (e.g., proposed landfills) which affect or are affected by pipeline proposals, or gas/ oil pipelines that are specifically designated under the *Environmental Assessment Act*.

**Environmental Approvals:**

Compliance with any conditions in an approval, licence or permit issued under the *Environmental Protection Act*, the *Ontario Water Resources Act*, the *Pesticides Act* or the *Environmental Assessment Act* (See Section 5.0).

**Energy Matters:**

Energy rationale for oil or gas pipelines and facilities.

**Other Considerations:**

Any other matters, including public participation, that specifically relate to the above areas directly within the Ministry's mandate.

**4.0 Guideline Implementation****4.1 Implementation**

The Director of the Environmental Planning Branch and Regional Directors of the Ministry shall implement this guideline as it relates to environmental considerations. Matters relating to energy will be implemented by the Director of the Energy Liaison and Planning Branch.

**4.2 Ministry Staff Involvement**

Ministry staff activities, in most cases, shall be co-ordinated through the Ministry's environment representative on the Ontario Pipeline Coordination Committee (OPCC) of the OEB. Matters relating to energy shall be co-ordinated by the Ministry's energy representative on the OPCC. Ministry staff involvement includes:

**Project Review:**

Review of environmental reports including route selection, preferred route analyses and assessments and, where necessary, reviews of proposed contract drawings and specifications, work schedules and the contractor's proposed method of construction.

**Monitoring:**

Periodic inspection and surveillance of ongoing pipeline construction, to ensure necessary compliance and review of monitoring reports.

**Public Hearings:**

Intervention and/or participation, as appropriate, at any hearings before the OEB or NEB on pipeline applications or related matters of concern to the Ministry.

### **Other Activities:**

Any other activities that may be necessary to ensure compliance with the intent of any approval conditions or the Ministry's environmental objectives.

### **4.3 Application of other Ministry Guidelines**

Any related Ministry guidelines, procedures and studies may be used to guide the OEB, NEB and the pipeline industry during the process of approving and implementing pipelines and facilities in Ontario. In the absence of such guidelines, procedures and studies, staff shall use best professional judgement and available information.

### **4.4 Ontario and National Energy Board approvals**

The Ministry may suggest, through the OPCC, that the OEB attach conditions, where appropriate, in the Board Order, in the event of an approval of a pipeline application, to ensure that Ministry concerns are met. In those cases where proponents are applying to the NEB for approval of a proposed pipeline, and where the proposal is not directly within Provincial jurisdiction, the Ministry may ask, through the OPCC, that the NEB attach conditions in the Board Order, where appropriate, in the event of an approval, to ensure that Ministry concerns are met.

### **5.0 Legislative Provisions**

#### ***Environmental Protection Act, RSO 1990***

**Section 14:** establishes general prohibition against creation of "adverse effects"

**Section 27:** prohibits alteration of a waste disposal site without a Certificate of Approval (CofA)

**Section 46:** requires approval for use (e.g., right-of-way) of any landfill which has been non-operational for 25 years or less

**Section 91-123:** establishes notification and cleanup requirements and liability for discharges related to spills

**O.Reg. 347:** regulates waste management

**O.Reg. 346:** regulates atmospheric emissions. Requires a CofA (Air) for construction, alteration, extension or replacement of any plan, structure, equipment, etc., that may result in atmospheric emission of contaminants or altered rate of emission. Contaminants include: gas, particulate, odour, heat, sound, vibration, etc.

#### ***Ontario Water Resources Act, RSO 1990***

**Section 30(1):** prohibits discharge of polluting material

**Section 30(2):** requires notification to Minister when polluting material is discharged or escapes into waterbody

**Section 33(1):** areas defined for protection of public water supply

**Section 34(3)(c):** requires a permit for the diversion or storage of water in excess of 50,000 litres per day

**Section 34(4):** requires a permit when water taking interferes with any public or private interest in any water

**Section 53(1):** requires approval of industrial sewage works. The approval is required for the establishment, alteration, extension or replacement of new or existing sewage works. As defined in Section 1, "sewage works" means any works for the collection, transmission, treatment and disposal of sewage, or any part of any such works and "sewage" includes drainage, stormwater, commercial wastes and industrial wastes

***Pesticides Act, RSO 1990***

**Section 7:** requires a permit before using a pesticide

**Section 27, 28:** provides for Stop Orders and Control Orders

***Environmental Assessment Act, RSO 1990***

**Section 3:** requires environmental assessment of undertakings by public bodies. This can affect pipelines on land or easements owned by public bodies (e.g., Ontario Hydro)

**6.0      References**

"Environmental Guidelines for Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario" (Ontario Energy Board, 1989, as amended)

**GUIDELINE D-4**  
**(formerly 07-07)**

**Land Use On or Near Landfills and Dumps**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part V, Sections 27 and 46*

*O. Reg. 347, General -- Waste Management*

*Planning Act, RSO 1990, Sections 2(a)(b)(c)(f)(g)(h), 17(9), 22(3), 41(4) and 51(3)*

*Condominium Act, RSO 1990, Section 50(3)*

*Environmental Assessment Act, RSO 1990, Section 5(3)*

**Responsible Director:**

Director, Environmental Planning Branch

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**7.0 REFERENCE DOCUMENTS:**

- a) Procedure D-4-1: "Assessing Methane Hazards from Landfill Sites"
- b) Ministry of Consumer and Commercial Relations Bulletin No. 91003: "Environmental Warnings/Restrictions"
- c) Ministry of Consumer and Commercial Relations Bulletin No. 80023: "Registration of Certificates & Provisional Certificates"
- d) Guideline D-7: "Requests for Land Use Approval under *EPA*, Section 46" (under development)
- e) Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation"
- f) Procedure D-1-3: "Land Use Compatibility: Definitions"
- g) Guideline D-1: "Land Use Compatibility"

## SYNOPSIS

This guideline specifies restrictions and controls on land use that the Ministry wishes to see implemented in the vicinity of landfills and dumps, in order to protect the health, safety, convenience and welfare of residents near such facilities. It complements existing ministry abatement programs for landfills and dumps, and is a direct application of Guideline D-1: "Land Use Compatibility."

Application of the guideline extends to all proposals for land use on, or near, operating and non-operating landfills, (as defined in O. Reg. 347) and dumps which contain municipal solid waste, industrial solid waste and/or sewage sludges. The guideline applies to all such facilities regardless of ownership. It does not apply to lands certified as organic soil conditioning sites under O. Reg. 347.

Ministry staff shall use the guideline when they are reviewing land use proposals, including official plans and amendments, and plans of subdivision/condominium:

- (a) at the request of the responsible Ministry or the delegated approving authority, under the *Planning Act* or the *Condominium Act*;
- (b) for land use requests subject to Section 46 of the *Environmental Protection Act*; and
- (c) for undertakings subject to the *Environmental Assessment Act*.

## 1.0 Introduction

This guideline protects the health, safety, convenience and welfare of residents from the potential adverse effects of landfills and dumps, by restricting or controlling land use in their vicinity. It complements the Ministry's existing abatement programs, and Ministry staff shall refer to it when they review land use proposals.

The principles of Guideline D-4 shall also be considered when looking for locations to establish a landfill in Ontario.

Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation" discusses various implementation approaches and tools. Procedure D-1-3: "Land Use Compatibility: Definitions" provides definitions of terms, in addition to those included in Section 2.0 of this guideline.

## 2.0 Definitions

**NOTE:** Additional definitions are provided in Procedure D-1-3: "Land Use Compatibility: Definitions".

**Fill Area:**

The area of a waste disposal site set aside for landfilling or dumping (see **Conceptual Diagram No. 1.** below)

**Land Use:**

Any existing or proposed activity, structure, service, facility, or natural feature, either at, above, or below grade, which conforms to an approved municipal plan.

**Land Used for Waste Disposal Purposes:**

The land comprising the fill area, where landfilling or dumping has occurred, and the land which is being used or is to be used for the leachate buffer area and/or the gas buffer area; the land may be on- or off-site, (see **Conceptual Diagram No. 1** below)

**Peripheral Area:**

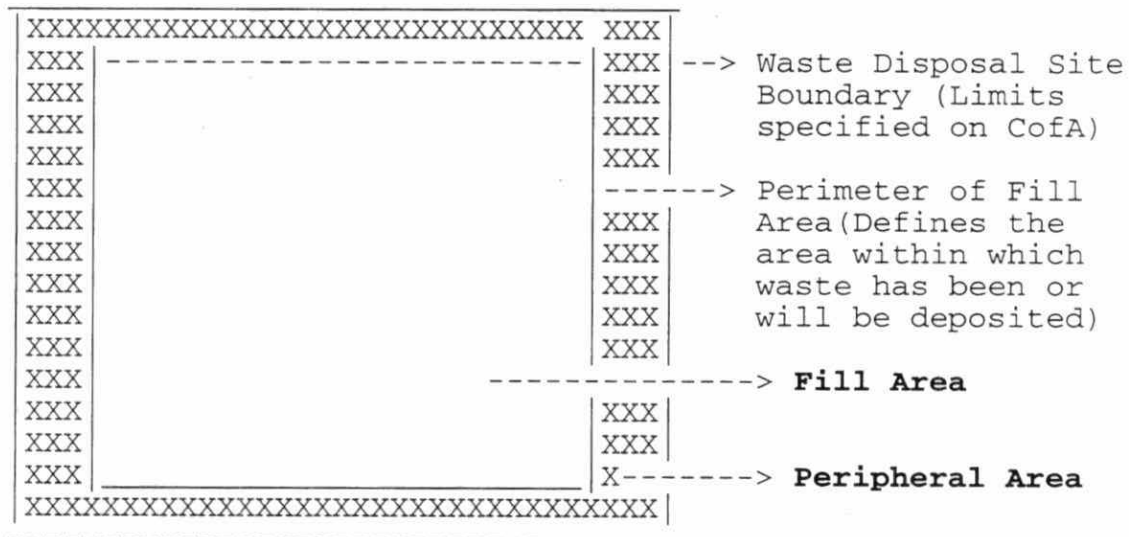
The area controlled by the site owner/operator between the boundary of the waste disposal site and the fill area; together, the peripheral area and the fill area make up the waste disposal site; the peripheral area will contain the buffer areas required to be on-site (see **Conceptual Diagram No. 1** below)

**Vectors and Vermin:**

Disease-carrying organisms, insects, rodents, birds (especially gulls) and other harmful creatures (e.g., bears)

# CONCEPTUAL DIAGRAM NO. 1

(Plan View)



LANDFILL OR DUMP

### **3.0 Application**

#### **3.1 General**

This guideline applies to all proposals for land use on or near any landfill or dump which contains municipal solid waste, industrial solid waste and/or sewage sludges. It does not apply to lands certified as organic soil conditioning sites under O. Reg. 347.

#### **3.2 Liquid Industrial and Hazardous Waste**

For proposals in the vicinity of landfills and dumps that have accepted liquid industrial, toxic or hazardous waste, the Ministry shall expect proponents to undertake further investigations and provide a report to the approving authority. Where there is evidence of off-site migration of contaminants, the Ministry shall require abatement measures beyond those discussed in this guideline.

### **4.0 Environmental Considerations**

Environmental considerations shall be considered by all parties involved in the production, review and approval of a study/evaluation report.

#### **4.1 Operating Sites**

Factors to be considered when land use is proposed near an operating site include: landfill-generated gases, ground and surface water contamination by leachate, odour, litter, contaminant discharges from associated vehicular traffic, visual impact, dust, noise, other air emissions, fires, surface runoff, and vectors and vermin. Particular attention shall be given to the production and migration of methane gas.

#### **4.2 Non-Operating Sites**

Factors to be considered when land use is proposed on or near a non-operating site include: ground and surface water contamination by leachate, surface runoff, ground settlement, visual impact, soil contamination and hazardous waste, and landfill-generated gases. Particular attention shall be given to the production and migration of methane gas.

#### **4.3 Assessment**

The adverse effects of the factors listed in Sections 4.1 and 4.2 of this guideline may create:

- (a) a hazard or health/safety risk;
- (b) a nuisance to man; and/or
- (c) degradation of the natural environment.

The overall extent, number, degree and frequency of contaminant discharges and visual problems can vary with each site. Consideration must be given to the nature of proposed land use(s).

Reference should be made to Reference (a) (Section 7.0), if particular site conditions warrant obtaining further information with respect to methane gas.

#### **4.4 Buffering Techniques**

One or a combination of buffers, as defined in Guideline D-1: "Land Use Compatibility", may be employed in a given situation.

#### **4.5 Hydrogeologic/Engineering Studies**

##### **4.5.1 Responsibility**

Where the hydrogeologic and geologic setting of the proponent's property and the inter-relationship with gas and/or leachate from the fill area are unknown, Ministry staff shall recommend to the approving authority that the proponent engage a qualified hydrogeologist and/or engineer to determine the subsurface conditions and, where necessary, propose remedial measures.

##### **4.5.2 Exceptions**

The Ministry shall not normally recommend a formal site investigation, as recommended in Section 4.5.1, when its staff is satisfied that the evaluation of existing data indicates the absence of a problem.

#### **4.6 Controls and Monitoring for Adverse Effects**

Where appropriate, Ministry staff shall recommend, as a condition of approval, that a proponent include controls to deal with adverse effects or risks to health or safety and that the approving authority monitor contaminant migration and carry out inspections of control facilities.

In the event that the approving authorities lack the expertise or resources to perform such inspections, they shall employ qualified consultants to do so.

#### **4.7 Monitoring on Private Property**

Where the approving authority requires monitoring and inspections on private property, Ministry staff shall recommend that a contract be executed between the proponent and the municipality, in the form of, or as part of an agreement that may be registered on title and run with the land. Documents which are able to be registered on title are identified in References (b) and (c) (see Section 7.0).

## **5.0 Land Use Considerations**

### **5.1 Sensitive Land Use**

The Ministry will normally recommend against proposals for sensitive land use (see Section 5.1.1. for details) adjacent to operating landfills, and on land used for waste disposal purposes where there are completed or partially completed fill areas.

Where land uses are proposed for approval on non operating landfills and dumps under Section 46 of the *Environmental Protection Act*, the Ministry normally shall not permit residential or other sensitive land use. Further details are provided in Reference (d) of Section 7.0.

#### **5.1.1 Sensitive Land Uses for Landfills Currently in Operation**

Any existing or committed land use which includes:

- (a) a permanent structure used in animal husbandry; or
- (b) agricultural land used for pasturing livestock; or
- (c) a permanent structure where:
  - (i) a person sleeps, or
  - (ii) a person is present on a full time basis;

but not including food or motor vehicle service facilities adjacent to a highway, utility operations, scrap yards, heavy industrial uses, gravel pits, quarries, mining or forestry activities; or

- (d) cemeteries

#### **5.1.2 Compatible Land Uses for Landfills Currently in Operation**

Compatible land uses may include:

- (a) utilities and above grade transportation routes except major highways;
- (b) fences;
- (c) wood harvesting and other forestry activities;
- (d) certain farming activities;
- (e) industrial uses, including incinerators permitted to operate under O.Reg. 347;
- (f) gravel pits and quarries, and other mining activities (provided the landfill water table is not affected); or
- (g) such land uses which would not be threatened by any hazard to public health or safety and would not be impaired by nuisance effects.



## **5.2 Land Use Within 30 metres of a Fill Area**

### **5.2.1 Operating Sites**

No land use may take place within 30 metres of the perimeter of a fill area. This is a minimum distance.

Each operating landfill shall have an on-site operational/maintenance buffer area identified on the Certificate of Approval. This buffer shall be no less than 30 metres; it is normally 60-100 metres.

### **5.2.2 Non-Operating Sites**

Where technical controls for leachate, or leachate and gas are required surrounding a fill area, no land use may take place within 30 metres of its perimeter. This distance may be reduced to 20 metres in cases where only gas controls are necessary.

## **5.3 Land Use Within 500 metres of a Fill Area**

The Ministry considers the most significant contaminant discharges and visual problems to be normally within 500 metres of the perimeter of a fill area. Accordingly, the Ministry recommends this distance be used as a study area for land use proposals. Ministry staff shall ensure that the proponent has evaluated the presence and impact of any adverse effects or risks to health and safety and that necessary remedial measures are taken when land use proposals are within this distance. This assessment shall be based on the nature and knowledge of the disposal site, and the nature of land use(s) proposed.

Actual influence areas for the considerations listed in Section 4.1 and 4.2 of this guideline will vary with the individual landfill or dump. Where the actual influence area of a site has been determined to be less than the 500 metre study area set out in this section, the study area for land use proposals can be reduced to coincide with the actual influence area.

## **5.4 Land Use Beyond 500 metres of a Fill Area**

Where significant impacts are encountered at or beyond 500 metres, the study area within which an assessment for any change in land use is recommended, shall be extended beyond the 500 metre area set out in Section 5.3. Historical evidence in Ontario has shown that the maximum distance within which adverse effects could be experienced while a landfill is operating is up to 3 kilometres.

In exceptional hydrogeologic situations, such as areas of fractured rock or sand, where it is anticipated that leachate or gas from a non-operating landfill or dump could migrate beyond 500 metres and pose a problem, Ministry staff shall recommend that proponents carry out

hydrogeologic and/or engineering studies for land use proposals beyond 500 metres of a fill area (see Section 4.5 for more details).

### **5.5 Significant Impacts**

The Ministry shall recommend against land use proposals where proponents have not incorporated feasible remedial measures to prevent or minimize adverse effects (as discussed in Section 4.3).

### **5.6 Sequential Development**

In considering long-range planning, the Ministry may recommend that proponents delay or phase certain types of land use to coincide with closure of sections of a landfill, or the operation itself, as nuisance effects are reduced or eliminated. This approach shall only be permitted in cases where no risks to health or safety are present.

## **6.0 Responsibilities**

### **6.1 Operators and/or Owners of Landfills or Dumps**

The Ministry shall require operators and/or owners of operating landfills and non operating landfills and dumps to comply with the *Environmental Protection Act* and O. Reg. 347 (Waste Management) requirements for the control of adverse effects caused by these facilities.

### **6.2 Proponents/Consultants**

Ministry staff shall recommend to the approving authority that the proponent provide a report on environmental considerations (see Section 4.0) and, where necessary, propose and implement appropriate control measures. These measures shall include design details and specifications for any control device or facility.

### **6.3 Municipalities**

The local municipal authority is responsible for ensuring that proponents implement and monitor proper control measures associated with new, sensitive developments. It also shall ensure that periodic inspections of operating landfills and non-operating landfills and dumps for contaminant migration and potential hazards are carried out.

### **6.4 Ministry**

With respect to its mandate for landfills and dumps, the Ministry shall exercise the following responsibilities:

#### **6.4.1 Near Land Used or to be Used for Waste Disposal Purposes**

Ministry staff will expect proponents and municipalities to fulfil their responsibility to protect public health and safety in areas of land use near a landfill or dump, and to prevent significant impacts from difficult-to-control nuisance effects which may extend beyond the lands under the Certificate of Approval for an operating landfill.

#### **6.4.2 On Land Used for Waste Disposal Purposes**

Where a proponent submits a land use proposal for approval under Section 46 of the *Environmental Protection Act*, the proponent must assure Ministry staff and the municipality that the proposal contains adequate measures for the protection of public health and safety, in order to facilitate the Minister making a decision on approval.

Where an approval under *EPA* Section 46 is not required from the Minister, Section 6.4.1 of this guideline applies.

#### **7.0 Reference Documents:**

- (a) Procedure D-4-1: "Assessing Methane Hazards from Landfill Sites"
- (b) Ministry of Consumer and Commercial Relations Bulletin No. 91003: "Environmental Warnings/Restrictions"
- (c) Ministry of Consumer and Commercial Relations Bulletin No. 80023: "Registration of Certificates & Provisional Certificates"
- (d) Guideline D-7: "Requests for Land Use Approval Under *EPA*, Section 46" (under development)
- (e) Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation"
- (f) Procedure D-1-3: "Land Use Compatibility: Definitions"
- (g) Guideline D-1: "Land Use Compatibility"

**GUIDELINE D-5**

**Planning for Sewage & Water Services**

**Legislative Authority:**

*Environmental Protection Act*  
*Ontario Water Resources Act*  
*Planning Act*

**Responsible Director:**

Director, Environmental Planning Branch

**Last Revision Date:**

October 17, 1994

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## **SYNOPSIS**

This document is intended to guide municipal planning for sewage and water servicing. It describes an approach for municipal planning for sewage and water services to ensure an acceptable quantity and quality of water supply and the proper collection, treatment and disposal of sewage wastewater for development. It is consistent with the Provincial goal to manage growth and change to foster communities that are socially, economically, environmentally, and culturally healthy, and that make efficient use of land, new and existing infrastructure and public service facilities.

### **1.0 INTRODUCTION**

#### **1.1 Principles**

This document describes the position of the Ministry of Environment and Energy (MOEE) on municipal planning for sewage and water services to ensure an acceptable quantity and quality of water supply and the proper collection, treatment and disposal of sewage wastewater for development.

#### **1.2 Objectives**

The objectives of this document are to direct municipalities, through official plans, to plan servicing facilities which maintain or enhance the quality of the environment to accommodate expected growth by:

- planning for and directing development to areas where municipal water and sewage facilities are available, with sufficient uncommitted reserve capacity to service the proposed development or to areas where there has been a commitment to new services or the expansion of existing services (where services will be available at the time of development), in accordance with long-term planning and multi-year sewage and water servicing plans;
- using communal water and sewage services where multi-lot/unit development is proposed in areas without full municipal services to ensure the long-term viability of the services through municipal responsibility to protect the environment and public health; and
- determining, in the context of long-term planning and approved growth management objectives, that the consideration of development in areas without full municipal services is appropriate and site specific environmental and public health considerations are addressed.

## 2.0 MULTI-YEAR SEWAGE AND WATER SERVICING PLANS

Municipalities with the responsibility for sewage and water servicing should prepare multi-year sewage and water servicing plans as one component of planning for growth management and preparing official plan policy. Such servicing plans should be done in support of revisions to, or in the creation of, an official plan or can be done in support of planning documents prepared for areas proposed for potential growth. MOEE encourages municipalities to communicate with neighbouring municipalities to develop cooperative approaches to planning for and providing sewage and water services.

Municipal multi-year sewage and water servicing plans in conjunction with official plan policy should:

- address how the municipality intends to service anticipated growth and identify what the implications are for the existing servicing infrastructure and the need for new servicing infrastructure; and
- account for the efficient use of available existing infrastructure by calculating and reporting on uncommitted reserve capacity for sewage and water treatment facilities and establish a monitoring program for future use of that capacity; and
- identify the physical and environmental constraints to development related to servicing; and
- investigate measures to resolve any existing sewage or water problems within the municipality including limitations to sewage collection/pumping stations and to water distribution systems; and
- adopt a hierarchy of servicing preferences as a guide for managing growth and settlement consistent with the provincial *Growth and Settlement Policy Guidelines*. (see Section 3.0 of this Policy); and
- generally describe the type and level of water supply and sewage disposal services which would support municipal goals for environmental protection or enhancement, sustainability, urban intensification, and growth management in a manner which is efficient and cost effective; and
- draw conclusions regarding the principle of whether to permit development in areas outside existing full municipal services on the basis of:
  - an evaluation of servicing options which includes the potential for full municipal services and communal services; and

- a determination of appropriate areas to target for growth on the basis of the servicing option available; and
- investigate and classify areas outside fully municipal serviced areas which may be targeted for growth by generally evaluating the potential growth areas according to their suitability for development. These servicing/environmental investigations (along with other planning concerns) should be the basis for municipalities to direct appropriate forms of development to areas least likely to suffer adverse environmental impacts. To confirm that the principle of development is appropriate, the investigations should be an overview based on a evaluation using existing information on environmental constraints which include soils, groundwater and surface water conditions and use, storm water drainage, existing land uses, and environmental and physiographic features;
- address the issue of residuals management including hauled sewage (septage) utilization/disposal in the case of septic tank systems and sludge utilization/disposal in the case of digested sludge; and
- adopt water conservation measures toward reducing the demand on water supplies.

**NOTE:** If a multi-year sewage and water servicing plan is completed according to the five key features of environmental planning and the requirements of the class environmental assessment process, MOEE will recognize and give credit for work done within the plan as part of future class environmental assessments (see Section 2.3, *Municipal Engineers Association Class Environmental Assessment for Water and Wastewater Projects*, 1993).

### 3.0 HIERARCHY OF SERVICING PREFERENCES

Official plans, in concert with sewage and water servicing plans, should adopt a hierarchy of servicing preferences which are consistent with Provincial policy and Section 2 of this document, as follows:

- development on **full municipal services** be the preferred mode of servicing where there is sufficient uncommitted reserve capacity or where there is the capability for full municipal services to be expanded;
- in areas lacking full municipal services, **communal sewage and water services** be the preferred mode of servicing multi-unit/lot development; and
- in areas lacking full municipal or communal services where development can be characterized as limited, small-scale and low density, the use of **individual**



**on-site sewage and water services**, may be considered subject to meeting environmental and public health requirements.

### 3.1 Full Municipal Services

- New development should be directed to settlement areas with existing full municipal services or to where there has been a commitment to new full municipal services. Municipalities should anticipate and plan for needed water and sewage treatment plant expansions capable of accommodating municipal growth and development objectives.
- Accordingly, an integral part of planning for services is determining the status of uncommitted reserve capacity at water and sewage treatment facilities and monitoring this capacity on an on-going basis. Municipalities should assume responsibility for tracking, reporting and allocating uncommitted reserve capacity.
- Full municipal water and sewage services are the preferred method of servicing multi-lot/unit development that is adjacent to boundaries or portions of hamlets, villages, towns, and cities with existing full municipal services. (*Note: Development on partial services (i.e., the provision of municipal water services in the absence of municipal sewage services) will be discouraged.*)

### 3.2 Communal Sewage and Water Services

- Where a municipality has determined that it is appropriate, based on multi-year servicing plans and approved official plan policy, to accept the principle of planned development in areas without existing full municipal services, it is the position of MOEE that the preferred method of servicing multi-lot/unit development be communal sewage and water servicing.
- In preparing servicing plans or reviewing planning documents proposing development on communal services, municipalities should:
  - consider the potential, appropriateness and, if deemed necessary, the means of accommodating phased, multiple, or clustered development on communal services; and
  - designate areas for development proposed to be served by communal services based on an evaluation of environmental constraints that confirms that the principle of development is appropriate; and

- plan to accept responsibility for public communal services for development proposing multi-lot/unit freehold residential development (See Appendix B, *Application of Municipal Responsibility for Communal Water and Sewage Services*).

### 3.3 Individual On-site Sewage and Water Services

In preparing servicing plans or reviewing proposals for development on individual on-site services in areas without full municipal services, municipalities should ensure that:

- planned development can be characterized as limited, small scale, and low density; and
- municipal official plans do not anticipate or identify the provision of municipal services; and
- areas for development proposed to be served by individual on-site sewage and water services are designated based on an evaluation of environmental constraints that confirms that the principle of development is appropriate.

**NOTE 2:** Limited infill development on individual water supply and individual on-site sewage services within a settlement area may be considered only where there is no suitable receiver for effluent discharge from a communal sewage facility, there are no existing or potential water quality or quantity problems, site conditions permit, and such development is not being used as a means of circumventing sewage treatment plant capacity restrictions.

**NOTE 3:** In territories without municipal organization it is the position of the Province that development will generally be restricted.

## 4.0 IMPLEMENTATION

Consistent with the positions outlined in this document MOEE will review planning documents circulated under the *Planning Act* in the following manner:

### 4.1 Official Plans

MOEE will not recommend approval of new or revised official plans, unless they identify areas for growth through designations based on multi-year sewage and water servicing plans which have evaluated servicing options consistent with Sections 2 & 3 of this document.

## 4.2 Site-Specific Official Plan Amendment/Individual Application Review

For site-specific official plan amendments/individual applications that are submitted within the context of approved municipal planning documents which have incorporated planning for sewage and water services (as described in Sections 2.0 & 3.0 of this document) the following requirements must be met:

### Full Municipal Services

- there is sufficient uncommitted reserve sewage and water capacity available to service the proposed development as demonstrated by the municipality through an annual report and written certification that servicing capacity has been allocated to the proposed development (see Appendix A, *Calculating and Reporting on Uncommitted Reserve Capacity at Sewage and Water Treatment Plants, Sections 4.0 & 5.0*). (MOEE may consider entering into alternative arrangements with municipalities such as development control agreements. The Province considers capacity to be committed when draft approval is granted to a development in a fully serviced municipality.)

### Communal Sewage and Water Services

- an agreement for municipal ownership/responsibility for public communal services has been entered into between the developer and municipality for development proposing multi-lot/unit freehold residential development (See Appendix B, *Application of Municipal Responsibility for Communal Water and Sewage Services*); and
- a terrain analysis and hydrogeological report or an assimilation capacity study have been completed in accordance with the requirements of the Part VIII, *Environmental Protection Act* or S.53, *Ontario Water Resources Act* Director and MOEE which demonstrate that the proposal will not have an adverse effect upon the environment or public health. (See: (1) *Technical Guidelines for Septic Systems: Water Quality Impact Risk Assessment, 1993* (2) *Technical Guidelines for Private Wells: Water Supply Assessment, 1993* (3) *Manual of Policy, Procedures and Guidelines for Private Sewage Disposal Systems, 1982* (4) *Ontario Regulation 358 under Part VIII, Environmental Protection Act, RSO 1990* (5) *Ontario Regulation 903, Ontario Water Resources Act, RSO 1990*)

### Individual On-site Sewage and Water Services

- a terrain analysis and hydrogeological report or an assimilation capacity study have been completed in accordance with the requirements the Part VIII,

*Environmental Protection Act* or S.53, *Ontario Water Resources Act* Director and MOEE which demonstrate that the proposal will not have an adverse effect upon the environment or public health (see footnote 2).

**NOTE 4:** Many municipalities have been given responsibilities under contract with the Province under Part VIII, *Environmental Protection Act*, RSO 1990, with respect to septic tanks and certain other sewage systems, including communal sewage systems which discharge to the subsurface. These responsibilities include (1) arranging for adequate inspection to be made of all parcels of land with respect to which an application for consent, plan of subdivision, minor variance, or plan of condominium is made which are not or will not be served by adequate sanitary sewers and (2) commenting to the body or person to whom such application is made on the suitability of such lands for sewage disposal. These responsibilities are often exercised by the Board of Health.

#### 4.3 **Site-Specific Official Plan Amendment/Individual Application Review in the Absence of Planning for Sewage and Water Services in Approved Municipal Planning Documents**

- In the absence of municipal planning for services (as described above and in Sections 2.0 & 3.0 of this document), MOEE will not recommend approval for site-specific official plan amendments/individual planning applications proposing multi-lot/unit development, unless it is demonstrated that servicing options have been investigated and reported by means of a Servicing Options Statement (see Appendix C, *Servicing Options Statement*). Servicing options include the potential for servicing development on full municipal services, communal sewage and water services, and individual on-site sewage and water services consistent with this policy.

**NOTE 5:** A *servicing options statement* is not necessary for development proposing to connect to existing full municipal services within a designated settlement area, when it can be demonstrated that there is sufficient reserve sewage and water capacity as described in Section 4.2 of this document.

**NOTE 6:** Where applicable the requirements of the municipal class environmental assessment process must be met (see *Municipal Engineers Association Class Environmental Assessment for Water and Wastewater Projects*, 1993).

## 5.0 **DEFINITIONS**

### **Infill**

Development on vacant lots or undeveloped lots within a built-up area.

### **Limited, Small Scale, Low Density Development**

For the purposes of this guideline "limited, small scale, low density development" describes planned development that can be demonstrated as meeting the following criteria:

- community characteristics are protected consistent with approved municipal official plan policies; and
- the effects of development on community characteristics and on natural features and functions are assessed and acceptable; and
- the long-term adequacy of sewage and water services is demonstrated; and
- the long-term public costs of reasonably expected infrastructure and public services/facilities are assessed and acceptable.

**NOTE 7:** This definition provides the general bounds within which a municipality, on the basis of its particular community goals and consistent with the *Comprehensive Set of Policy Statements*, should seek to define, through approved official plan policy, appropriate areas for acceptable development on individual on-site services in areas without full municipal services, if such development is possible or desired.

### **Multi-lot/unit Development**

More than five lots/units of residential, industrial, commercial or institutional development.

### **Multi-Year Sewage and Water Servicing Plan**

A plan that recommends a framework for the servicing of future works and developments which are to be distributed geographically throughout a study area and implemented over an extended period of time. The plan should form part of an official plan and should contain long-range servicing strategies and long-term growth management goals. The plan should address the implications for existing services to serve anticipated growth, efficiency of existing infrastructure, physical and environmental constraints to development related to servicing, and ensure that new services support the goals of environmental protection, sustainability, urban intensification and growth management in an efficient and cost effective manner.

### **Sewage and Water Services:**

#### **Full Municipal Sewage and Water Services**

Means piped sewage and water services that are connected to a centralized water or wastewater treatment facility and provided by the municipality or another public body.

#### **Communal Sewage and Water Services**

Generally mean sewage works and sewage systems and water works that can be described as small-scale satellite wastewater collection, treatment, and disposal facilities and water distribution, and possibly treatment, facilities using ground or possibly surface water as a source. Communal sewage services are separated from and unconnected to full municipal services which are connected to large centralized treatment plants that may serve entire municipalities. Communal sewage facilities can be comprised of gravity, pressure, or vacuum sewer collection systems, septic tank, secondary, tertiary, or stabilization pond treatment technologies, and discharge treated wastewater to either the surface of the ground, surface water, or subsurface environment.

For the purposes of this guideline and in keeping with existing legislation, "communal services" or "communal systems" mean those sewage works, water works and sewage systems to be approved, or approved under Sections 52 & 53, *Ontario Water Resources Act* RSO 1990, or under Part VIII, *Environmental Protection Act* RSO 1990 for the common use of more than five units [in the total development area] of full-time or seasonal residential or industrial/commercial occupancy or other occupancy as determined by MOEE staff.

### **Individual On-Site Sewage and Water Services/Systems**

Individual autonomous water supply and sewage disposal systems, that are owned, operated and managed by the owner of the property upon which the system is located and which do not serve more than five residential units/lots.

### **Public Communal Services**

Means sewage works and sewage systems, and water works that provide for the distribution, collection or treatment of sewage and water but which:

- are not connected to full municipal sewage and water services;
- are for the common use of more than five residential units/lots; and
- are owned, operated, and managed by either:
  - the municipality; or
  - another public body; or
  - where ownership by a municipality or another public body can not be achieved, by a condominium corporation or single owner through a responsibility agreement with the municipality or public body, which requires municipal/public body assumption of the communal services in the event of default.

**Uncommitted Reserve Capacity**

See: Appendix A, *Calculating and Reporting on Uncommitted Reserve Capacity at Sewage and Water Treatment Plants*

**PROCEDURE D-5-1**

**APPENDIX A: CALCULATING AND REPORTING UNCOMMITTED  
RESERVE CAPACITY AT SEWAGE AND WATER TREATMENT PLANTS**

**Last Revision**

October 17, 1994



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## 1.0 RATIONALE

The Ministry's position is that the number of lots in approved plans of subdivisions, developments committed by virtue of approved zoning, new official plans or site-specific official plan amendments, should not exceed the design capacity of the sewage and/or water system. However, prior to calculating the uncommitted reserve capacity, it is important to recognize other factors which may limit new development, such as:

- limitations to the sewage collection/pumping stations (i.e.: basement floodings, overflow conditions, etc.);
- limitations to the water distribution system (ie: low pressure caused by small diameter mains), and other factors.

To this end, the "owner" is responsible for ensuring these factors, as well as any of the relevant plant performance characteristics listed in Section 3.2 below, are considered before calculating uncommitted reserve capacity for water and sewage works. (*The "owner" refers to the legal owner of the facility, or the person designated as owner in the Certificate of Approval for the works.*)

MOEE believes that plant performance and hydraulic capacity should be closely related to municipal growth management objectives in order to produce environmentally sound decisions regarding servicing. Municipalities should recognise that plant expansion or upgrades typically require a minimum of three to five years to develop, and should therefore plan for their long term development needs accordingly.

Municipalities should not recommend approval, and approval authorities should not consider approval, for development proposals if the uncommitted reserve capacity calculation has not been prepared and submitted according to the principles set out in this document. Furthermore, if other factors which limit plant performance are not identified and addressed the application must be considered incomplete. The Ministry is not able to process incomplete applications.

## 2.0 MOEE ROLE

The MOEE, as the regulatory agency, is responsible for facilitating and promoting the compliance with the *Environmental Protection Act*, the *Ontario Water Resources Act*, and regulations enacted under those statutes. This mandate is fulfilled in part, through the issuance of Certificates of Approval, and based upon Ministry policies and guidelines. To this end, favourable comments from the MOEE on development proposals as they concern water and sewage treatment facilities, are contingent upon sufficient uncommitted hydraulic capacity and plant performance that is environmentally acceptable.

### 3.0 CALCULATING UNCOMMITTED RESERVE CAPACITY FOR SEWAGE AND WATER TREATMENT FACILITIES

In determining the uncommitted reserve capacity of sewage and water treatment plants, the following factors need to be considered: hydraulic capacity and plant performance in relation to environmental protection as set out in Ministry statutes, regulations and policies, and; the Certificate of Approval. Each of these matters must be considered by both the Municipality and the M.O.E.E. in assessing whether development proposals should be entertained.

#### 3.1 Hydraulic Capacity

The uncommitted reserve hydraulic capacity should be calculated using the following formula:

$$C_u = C_r - \left[ \frac{L \times F \times P}{H} \right]$$

<b>C<sub>u</sub></b>	=	<b>uncommitted hydraulic reserve capacity (m<sup>3</sup>/d)</b>
<b>C<sub>r</sub></b>	=	<b>hydraulic reserve capacity (m<sup>3</sup>/d)</b>
<b>L</b>	=	<b>number of unconnected approved lots</b>
<b>P</b>	=	<b>existing connected population</b>
<b>H</b>	=	<b>number of households or residential connections</b>

**F** Defined under:

#### **Sewage Treatment Plants**

**F** = average day flow per capita (m<sup>3</sup>/capita/d)

#### **Water Treatment Plants**

**F** = maximum daily flow per capita (m<sup>3</sup>/capita/d)

Please refer to the definitions provided in Section 6.0 to assist you with this calculation.

**NOTE 1:** The Formula accounts for industrial, commercial, institutional and other flows by means of the per capita flow figure which includes flows from all types of land uses and other flow sources such as infiltration. In certain cases, such as where there is evidence of seasonal population fluctuations, rapid growth and/or the existence of large industries, or in cases where per capita water or sewage flows for proposed new developments will be substantially different from historical flows, etc., the Regional MOEE Director may consider it reasonable and appropriate to modify the manner in which the calculation is completed. Municipalities are advised to consult their Regional MOEE office in this regard.

- In order to provide additional protection against the design capacity of the systems being overcommitted, municipalities may choose to apply separate allocations for uses such as industrial plans or subdivisions, site-specific industrial uses characterized by high water consumption, existing vacant residential lots and similar examples that could significantly reduce the calculated reserve capacity by increasing the per capita flow figure.

**NOTE 2:** In calculating the uncommitted hydraulic reserve capacity, municipalities should ensure that the variable "L" represents all unconnected servicing commitments including:

- vacant lots/units in registered plans of subdivision and condominium
- lots/units in draft approved plans of subdivision/condominium;
- the maximum development potential of lands (i.e. scale and density) as permitted under existing zoning;
- registered plans of condominium;
- vacant lots created by consent in serviced areas.

**NOTE 3:** For Water Treatment Plants:

- Maximum day flows to be subtracted from uncommitted reserve capacity should be calculated on the basis of those increased max day flows at the treatment plant - as opposed to a max day flow calculated for the development. The latter would be an unrealistic representation of the impact of a small development at the treatment plant in a large community.

The following are examples of calculations for sewage and water treatment plants, using the above formula:

For Sewage Treatment Plant

Cr	=	12,000 m <sup>3</sup> /day
L	=	3,000 lots
F	=	.45 m <sup>3</sup> /day
P	=	25,000 people
H	=	8,000

$$Cu = Cr - \frac{(L \times F \times P)}{H}$$

$$Cu = 12,000 - \frac{(3000 \times .45 \times 25,000)}{8,000}$$

$$= 7,781.25 \text{ m}^3/\text{day}$$

#### For Water Treatment Plant

Cr	=	20,000 m <sup>3</sup> /day
L	=	3,000 lots
F	=	0.9 m <sup>3</sup> /day
P	=	25,000 people
H	=	8,000

$$Cu = Cr - \frac{[L \times F \times P]}{H}$$

$$Cu = 20,000 - \frac{[3000 \times .9 \times 25000]}{8,000}$$

$$= 11,562.5 \text{ m}^3/\text{d}$$

### **3.2 Plant Performance Characteristics Which May Affect the Use of the Above Formula**

#### **For Sewage Treatment Plants**

The following performance characteristics may be used as a basis for imposing limited or long term development constraints:

- the treatment facility is in poor condition, performing erratically or not in accordance with its design;
- the effluent quality parameters exceed or are near the limits specified in the plant's Certificate of Approval;
- the sewage strength (i.e. organic loading) varies significantly due to industrial discharges into municipal sewers.

### **For Water Treatment Plants**

The following performance characteristics may be used as a basis for imposing limited or long term development constraints:

- the existing treatment facility is in poor condition and not capable in meeting the maximum day demands, limiting pressures, etc.
- existing water quality does not meet health related parameters of the Ontario Drinking Water Objectives as stipulated in the plant's Certificate of Approval;

### **3.3 Compliance with Certificate of Approval**

Municipalities are responsible for ensuring that they are in compliance with Environmental Laws and the Certificates of Approval issued for their plants. Certificates of Approval typically identify effluent limits which must be met. Non-compliance for effluent quality must limit development in the same way as insufficient hydraulic capacity.

Typical examples of limiting factors established in Certificates of Approval for sewage works which must be complied with are: biochemical oxygen demand (BOD), suspended solids and phosphorus.

In many cases the Certificates of Approval also specify additional parameters which require monitoring (e.g., ammonia) depending on plant process. As a result, it is of critical importance that municipalities be aware of the specific requirements of their certificates. If the Certificate of Approval specifies a sampling protocol, it must be followed. If not, please refer to the MOEE policy entitled "Policy to Govern Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" (MOEE Policy 08-06).

### **3.4 Policies of the Ministry of Environment and Energy**

In addition to the requirements of the Certificate of Approval, there are a number of MOEE policies that govern the operation of treatment facilities (e.g. Ontario Drinking Water Objectives, Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources). This Ministry recommends that these policies be followed. Failure to comply with these policies may result in development restrictions imposed by this Ministry. Please refer to Appendix 1 for a listing of the policies. For copies of these policies please contact the nearest MOEE Regional or District Office.

## **4.0 ANNUAL REPORT**

Municipalities should produce an annual report within 90 days of the end of each calendar year, based on the calculation methods set out in this guideline. The annual report should

address both hydraulic capacity and performance factors, and be retained by the municipality for a period of three (3) years. Under Environmental Laws, these reports must be made available to Ministry personnel upon request.

The annual report must be authorized by an appropriate municipal official. (*"Appropriate municipal official" should be someone with credentials qualifying him/her to certify the capacity calculation as being a true and accurate reflection of the status of the sewage and water works. In an organized municipality, this would most likely refer to either the CEO or the Clerk.*) The date of the first annual report should be determined in consultation with the MOEE.

**NOTE:** Review and acceptance of an annual report by the MOEE should not be construed as confirmation of compliance with the requirements of the Certificate of Approval.

## 5.0 IMPLEMENTATION

MOEE staff will implement this Guideline through comments and advice supplied to municipalities, the public, and approval authorities on documents circulated under the *Planning Act*.

Each development application circulated to MOEE must be accompanied by written certification, prepared by the appropriate municipal official, which indicates that uncommitted capacity is available and has been allocated to the development. The MOEE will use the written certification accompanying each application as a basis for providing comments on planning documents circulated by the approval Authority.

## 6.0 EXPLANATION OF TERMS USED IN CALCULATIONS OF HYDRAULIC CAPACITY

### Sewage Treatment Plants:

#### Design Capacity

The design capacity may be defined in the Design Report or in the Certificate of Approval. The components of the wastewater flow may include:

- domestic wastewater;
- industrial wastewater;
- inflow/infiltration;
- storm water.

#### Average Daily Per Capita Flow

The average daily per capita flow means the total sewage flow to the sewage works over twelve (12) consecutive calendar months, or during the period of operation upon which the

report is based, divided by the number of days during the same period of time. Yearly average day flows are acceptable if the effluent compliance criteria for the defined parameters is based on average yearly concentration and loading limits.

**NOTE 4:** The use of 3 vs 5 year records in establishing representative average daily flows will be determined by the MOEE Regional Director.

### **Hydraulic Reserve Capacity**

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded average day flow.

### **Uncommitted Hydraulic Reserve Capacity**

The uncommitted hydraulic reserve capacity is obtained by subtracting the previously committed flows of registered and draft approved residential, commercial and industrial lots, from the existing hydraulic reserve capacity.

### **Commercial/Industrial Lots**

Sewage flows for commercial/industrial lots must be determined by the municipality. Municipalities should do this by estimating the water consumption / sewage figures for similarly sized, similar type developments and factor this information into the calculation of the uncommitted reserve capacity. Moreover, it should be understood that in some cases organic loading, and not hydraulic loading, may be the limiting factor.

In exceptional circumstances it is not possible to estimate water consumption / sewage figures, municipalities may estimate the flow with the prior approval of the Ministry. If the Ministry agrees that this is acceptable in the specific situation, the following approach may be used:

Industrial/institutional/commercial flows can be equated to an equivalent residential flow. A production/consumption rate of 100 gallons or 450 litres per capita per day of sewage flow or water demand should be used for designing sewage plants. This number will vary according to municipality. Once a specific industry is identified, the municipality will have a better indication of the amount of water the industry requires or the amount of sewage flows produced. The municipality will be able to determine whether its present sewage works can accommodate the industry.

### **Draft Approval**

Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.



Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the Province considers capacity to be committed to a development when draft approval is granted.

## **Water Treatment Plants**

### **Design Capacity:**

Design capacity of water treatment plants is defined as quantity of water which can be delivered to the distribution system when operating the plant under design conditions and is sufficient to meet the maximum day demand. (Greater capacities may be required depending on in-system fire flow requirements and storage capacity). The design capacity of water treatment plants can be obtained from the Certificate of Approval, Water Taking Permit, the design documents or design/operating manuals.

### **Hydraulic Reserve Capacity**

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded maximum day flow. In some instances, the capacity of ground water supply wells or the perennial yield of the aquifer must be determined in order to calculate the hydraulic reserve capacity for municipalities provided by such ground water supply systems.

### **Uncommitted Hydraulic Reserve Capacity**

The uncommitted hydraulic reserve capacity is obtained by subtracting the equivalent flow commitments to registered and draft approved residential, commercial and industrial lots from the existing hydraulic reserve capacity.

### **Commercial/Industrial Lots**

Water consumption for commercial/industrial lots must be determined by the municipality. Water demands for commercial/industrial establishments vary greatly with the type of water-using facilities present in the development, the number of people using it etc. Industrial water demands will vary greatly with the type of industry i.e. wet or dry operations.

In exceptional circumstances, municipalities may estimate the flow with the prior approval of the Ministry.

### **Draft Approval**

Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.

Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the Province considers capacity to be committed to a development when draft approval is granted.

### **Maximum Day Per Capita Flow**

The maximum day **per capita flow is based on the existing maximum day flow divided by the serviced population.** Lower maximum day flow figures may be accepted if the data indicates the highest flow(s) to the system occurred on an isolated basis, or where the municipality has successfully attempted to reduce leakage from the system and has also installed flow reducing devices.

As an alternative, the maximum day flow per capita may be derived by multiplying the average daily per capita flow with the maximum day factor. The maximum day factor is available in the design report or determined by using the design manual.

**NOTE 5:** The use of 3 vs 5 year records in establishing representative maximum day flow will be determined by the MOEE Regional Director.

**ADDENDUM**

**LISTING OF MINISTRY OF THE ENVIRONMENT AND ENERGY GUIDELINES  
GOVERNING THE OPERATION OF TREATMENT FACILITIES**

**Guideline F-5:**

Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters

**Guideline F-8:**

Provision and Operation of Phosphorus Removal Facilities at Municipal, Institutional and Private Sewage Treatment Works

**Guideline B-1:**

Water Management

**Guideline B-15:**

Use and Storage of Pesticides at Water Works

**Guideline B-5:**

Drinking Water Quality

**Guideline B-13:**

Treatment Requirements for Municipal and Communal Water Works Using Surface Water Sources

**Guideline B-14:**

Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources

**PROCEDURE D-5-2**

**APPENDIX B: APPLICATION OF MUNICIPAL RESPONSIBILITY  
FOR COMMUNAL WATER AND SEWAGE SERVICES**

**Last Revision**

October 17, 1994

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## 1.0 RATIONALE FOR MUNICIPAL RESPONSIBILITY OF COMMUNAL SYSTEMS

The Ministry of Environment and Energy (MOEE) has had considerable experience in the design, construction, operation and maintenance of communal sewage and water services. In this capacity, MOEE has usually become involved in providing communal services as a result of environmental and public health concerns in small communities where multiple private individual on-site services have malfunctioned. The Ministry also has many years of experience in the approval of private communal services. Through the Ministry's approvals process the technology and capability of communal services to perform has been and will continue to be examined by MOEE. However, proper design and construction alone cannot guarantee the integrity of private communal services. The technology can only perform to its capability if the facility is operated and maintained properly.

It has been the experience of the Ministry and other jurisdictions that private communal services, in the absence of a responsible public authority to ensure proper operation and maintenance, have a greater likelihood to malfunction as a result of poor management practices and that private operators are less likely to have sufficient funds to remediate problems. By having a responsible public authority provide regular operational monitoring and maintenance of communal services and identify maintenance needs before malfunctions can take place, a high level of protection of the environment and public health can be assured.

Proper management through responsible operation and maintenance is one of the key advantages of communal sewage and water services over multiple individual on-site septic systems. This advantage is in large part a result of the flexibility available in the design and management of communal services to meet the collective servicing demands of the users and to meet the site-specific assimilative needs to protect the environment. Flexibility offers the opportunity for communal services to be "tailored" for the specific type of development as well as for the site-specific environmental conditions (i.e., soils, groundwater, surface water, topography).

Given that proper operation and maintenance are the key factors in ensuring the long-term viability of communal services, it is recognized that a municipality, as a publicly accountable body, with permanency of place, is the appropriate authority to be responsible for ensuring the proper management of communal services.

Municipalities should recognize that the responsibility to give planning approval to developments, imparts to municipalities an obligation to ensure that planning decisions represent viable development for the long-term such that residents can rely on access to sewage and water services that protect the environment and public health. Municipal responsibility through municipal ownership, operation and maintenance is the most effective means of establishing a preventative management framework within which communal services can be operated and maintained with the assurance of their long-term viability, thereby protecting the public health and environment.

## 2.0 LEGISLATIVE AUTHORITY

*Environmental Protection Act*  
*Ontario Water Resources Act*  
*Planning Act*

## 3.0 APPLICABLE PLANNING PROPOSALS

This document shall apply to:

- Expansions to existing multi-lot/unit residential development or new multi-lot/unit residential development to be served by communal water and sewage services and/or requiring approval under Sections 52 & 53, *Ontario Water Resources Act*, RSO 1990 and Part VIII, *Environmental Protection Act*, RSO 1990; or
- any other situations to be assessed on a case-by-case basis by the MOEE Regional Director.

## 4.0 MUNICIPAL RESPONSIBILITY FOR COMMUNAL SERVICES

### 4.1 Organized Areas

In reviewing development applications located in organized areas that propose the uses described in Section 3.0 of this document, MOEE will request municipal ownership, operation, and maintenance of the communal sewage and water services.

Where municipal ownership of communal services cannot be achieved, a *Responsibility Agreement* between the developer and the municipality will be requested by MOEE. Such agreements will include provisions for municipal assumption of the communal services in the event of default and the provision of up-front secured funds (see Section 5.0).

MOEE will not consider the use of *Responsibility Agreements* for applications proposing multi-lot/unit residential freehold development. For such development MOEE will only consider municipal ownership, operation, and maintenance of communal services.

### 4.2 Areas without Municipal Organization

Developments proposing communal services should be encouraged to locate in municipalities where there are local public authorities to assume responsibility for these services and undertake remedial action in the case of default.

As a rule, the Ministry will comment negatively on proposals for new or expanded communal services in areas without municipal organization that are to be served by the uses described in

Section 3.0 of this document. The rationale for this position is that in the absence of a municipal government organization the long-term viability of communal services, and hence the protection of the environment and public health, cannot be assured.

MOEE will consider communal services in areas without municipal organization only in the situation where they are required to address remediation of failed individual on-site services.

## 5.0 RESPONSIBILITY AGREEMENTS

- Municipal responsibility agreements are legal agreements between a municipality and developer which stipulate the conditions under which communal services will be constructed, operated and maintained, as well as, the action to be undertaken by the municipality in the event of default. Responsibility agreements form the basis for a preventative mechanism by establishing responsibilities for proper construction, operation and maintenance management practices and by providing up-front secured funds for any remedial measures that may be necessary in the event of default. When proper management practices are in place and enforced, malfunctions arising from poor operation and maintenance can be prevented and the long-term viability of the services, and protection of the environment and public health, can be assured.
- Responsibility agreements should contain financial assurance provisions which will ensure a secured fund to be held by the municipality for capital improvements should repair or replacement of services become necessary in the event of default and municipal assumption of the communal services.
- Responsibility agreements should contain reference to Section 79(c), *Environmental Protection Act*, RSO 1990, and Section 62, *Ontario Water Resources Act*, RSO 1990, and a statement verifying municipal acknowledgement of the possibility that, in the event of an environmental or public health problem related to communal sewage and water services, the Director may make an order requiring the municipality to act to correct the problem. The *Ontario Water Resources Act*, RSO 1990, S.62, states:
  - (1) *Where a Director reports in writing to the clerk of a municipality that he or she is of the opinion that it is necessary in the public interest that water works or sewage works or any part thereof be established, maintained, operated, improved, extended, enlarged, altered, repaired or replaced, it is not necessary to obtain the assent of the electors to any by-law for incurring a debt for any such purpose and the municipality shall forthwith do every act and thing in its power to implement the report of the Director. R.S.O. 1980, c. 361, s. 33 (1).*
  - (2) *Where the municipality fails to do every act and thing in its power to implement a report made to it under subsection (1) forthwith after receipt of*



*the report, and the time for taking an appeal has passed or there has been final disposition of an appeal by which the report is confirmed or altered, the Director, with the approval of the Board, may direct that whatever is necessary to implement the report or the report as confirmed or altered be done at the expense of the municipality, and the Minister may recover the expense incurred in doing it, with costs, by action in a court of competent jurisdiction, as a debt due to the Crown by such municipality. R.S.O. 1980, c. 361, s. 33 (3).*

- In addition, responsibility agreements should generally set out the following:
  - (a) operating and maintenance standards,
  - (b) a definition of default,
  - (c) an outline of remedial action in the event of default,
  - (d) financial assurance provisions,
  - (e) registration on title of the subject property,
  - (f) easements, where required;
  - (g) right of entry and inspection;
  - (h) that when required communal services (including any interests in the land) not already owned by the municipality will be transferred to the municipality at no cost to the municipality.

## 6.0 DEFINITIONS

### Communal Services/Communal Systems

Mean those sewage works, water works and sewage systems to be approved, or approved under Sections 52 & 53, *Ontario Water Resources Act*, RSO 1990, or under Part VIII, *Environmental Protection Act*, RSO 1990, for the common use of more than five units [in the total development area] of full-time or seasonal residential or industrial/commercial occupancy or other occupancy as determined by MOEE staff.

### Default

For the purposes of this document "default" describes the situation whereby communal services are not being operated or maintained in accordance with prescribed standards and the operator is unable or unwilling to comply with prescribed standards which may include non-compliance with the Terms and Conditions of the Certificate of Approval for the system or works.

### Freehold Development

Means development proposals subject to Section 50 of the *Planning Act*.

**PROCEDURE D-5-3**

**APPENDIX C: SERVICING OPTIONS STATEMENT**

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## SERVICING OPTIONS STATEMENT

Consistent with MOEE's *Policy on Planning for Sewage and Water Services*, in the absence of municipal planning for services in an approved official plan (as outline in Section 2.0 & Section 4.0, *Policy on Planning for Sewage and Water Services*), MOEE will not recommend approval for site-specific official plan amendments/individual planning applications proposing multi-lot/unit development for other than development connecting to existing full municipal services in a settlement area, unless a *servicing options statement* has been completed. The *servicing options statement* must investigate the potential for servicing the development on full municipal services and communal sewage and water services. A *servicing options statement* must be prepared and/or endorsed by the municipality and submitted with the planning application by the developer in consultation with the municipality. The *servicing options statement* should address the following matters:

- an evaluation of proximity of existing or committed full municipal services or communal services and the ultimate potential for future connection to full municipal services or communal services for the whole area proposed for development;
- where a development application is known or anticipated as being one of a number of proposals for the same development area, the evaluation or servicing options should not be completed within the context of the development potential for the whole area as determined through consultation with the municipality and based on proposed or established long-term municipal servicing plans and growth management objectives;
- an overview of the environmental suitability of the site for the proposed series based on information accessible at a municipal scale that can be applied to the proposed site proposal and generally addresses:
  - environmental constraints (eg., environmental features, surface water, groundwater);
  - suitability of the terrain (eg., soils, topography) of the site;
  - the performance of services in similar developments in the surrounding area; and
  - the scale (total areal extent), density, and type of use proposed for the development;

- evaluation of the relative potential and merit of each of the servicing options to serve the proposed development; and
- documentation of the decision-making process and rationale that led to the determination of the servicing option proposed for the development.

**NOTE 1:** The complexity/simplicity of investigation associated with a *Servicing Options Statement* should be relative to the complexity/simplicity of the development proposal at hand as determined by the matters to be addressed in the *Servicing Options Statement*.

**NOTE 2:** Certain sewage and water projects are subject to the *Class Environmental Assessment for Municipal Water and Wastewater Projects, June 1993*, and any project has the potential to be the subject of a designation request or bump-up request under the environmental assessment process. It is, therefore, in the best interests of the proponent (developer and/or municipality) to evaluate servicing options by combining planning for services, through a servicing plan or servicing options statement, and environmental assessment, through the Class EA, into one planning process. To meet the environmental assessment planning criteria under the Class EA, a proponent's evaluation or servicing options should reflect the five key principles of successful planning under the *Environmental Assessment Act*:

- consultation with affected parties early on (consistent with the requirements of the Class EA), such that the planning process is a cooperative venture;
- consideration of a reasonable range of alternatives;
- identification and consideration of the effects of each alternative on all aspects of the environment;
- systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects; and
- provisions of clear and complete documentation of the planning process followed, to allow "traceability" of decision-making with respect to the project.

**PROCEDURE D-5-4**

**TECHNICAL GUIDELINE FOR**

**INDIVIDUAL ON-SITE SEWAGE SYSTEMS:**

**WATER QUALITY IMPACT RISK ASSESSMENT**

**Last Revision**

October 11, 1994

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## 1.0 STATEMENT OF PRINCIPLES

This guideline describes the position and requirements of the Ministry of the Environment and Energy (MOEE) regarding the assessment of the potential impact on groundwater caused by proposed developments on individual on-site sewage systems (sub-surface sewage systems). This guideline applies only to those areas of the Province which have not been designated under Notice 3/87 (attached) as subject to Ministry Policy 15-08. In areas so designated, the proposed development must comply with the requirements of Policy 15-08 and its associated guidelines.

The guideline reflects the Ministry's experience with development utilising individual on-site sewage systems, and emphasises the need to minimise the potential for adverse groundwater impacts resulting from their use.

This guideline is presented with the understanding that the use of individual on-site sewage systems has been justified by the municipality or the local planning authority. This justification includes an evaluation of alternative types of servicing. The Ministry encourages municipalities to plan for environmentally appropriate servicing infrastructures by undertaking comprehensive, large-scale assessment of groundwater and surface water resources. Please refer to "MOEE Policy on Planning for Sewage and Water Services".

The purpose of the guideline is to protect the environment and public health by ensuring that development utilising individual on-site sewage systems proceeds at a density and scale which will not result in, or cause degradation of, groundwater resources in exceedance of acceptable limits. Compliance with acceptable limits shall be demonstrated through a prediction of the development's nitrate impact on the groundwater at the development boundary. The Guideline is intended to encourage the assessment of the potential for degradation on the basis of a technically based and technically defensible evaluation of the proposal.

## 2.0 OBJECTIVES

The objectives of this guideline are as follows:

- (a) To provide technical guidance to professionals involved in land development (in particular, hydrogeologists) in assessing the potential for unacceptable groundwater impacts resulting from the use of individual on-site sewage systems, through a three stage assessment process.
- (b) To ensure that proposals are submitted with the required technical support to allow the Director to either support the proposed development, designate the proposed development under Notice 3/87 (thus requiring an assessment in compliance with Policy 15-08 and its associated guidelines), or to recommend against approval.

### 3.0 APPLICATION OF THE GUIDELINE

This guideline applies to the combined or total impact on groundwater of a development proposal of more than five units with individual on-site sewage systems, in areas which have **not** been designated under Notice 3/87 (attached). The Guideline applies to residential, commercial and industrial proposals which use individual on-site sewage disposal systems for the treatment of domestic waste. Application to development proposals involving five or fewer units shall be at the discretion of the Regional Director. Although MOEE does not normally review development proposals consisting of 5 or fewer lots, municipalities are encouraged to retain, on their behalf, professionals with demonstrated expertise in hydrogeology with emphasis on development on private services, to review studies prepared in accordance with this Guideline. Municipalities are also encouraged to implement the provisions of this guideline in their consideration of developments by consent or severance.

This guideline **does not apply** to the following:

- Large Subsurface Sewage Disposal Systems as defined in Notice 3/87 (attached);
- the assessment of impacts of existing isolated individual residential sewage systems or interference between individual home systems on existing neighbouring lots within a subdivision (see Note below);
- applications for approval of on-site systems which are replacements due to the failure (e.g., due to hydraulic load, age, etc.) of the original system.

This guideline may not apply to non-standard individual on-site systems which are specifically designed to reduce nitrate loadings. It should be emphasised that MOEE encourages the development of new technologies for the treatment of domestic sewage waste. The Ministry will entertain proposals for development which incorporate new technologies. Contact your regional MOEE office for information on these types of systems.

Note: Where the use of individual on-site systems has resulted in unacceptable impairment of off-site water quality, the issue should be handled in accordance with MOEE Policy 15-10, "The Resolution of Groundwater Quality Interference Problems".

### 4.0 DESIGNATED AREAS UNDER NOTICE 3/87

Under Notice 3/87, the Director under Part VIII of the *Environmental Protection Act* or the MOEE Regional Director may designate a municipality or an area of a municipality as subject to Policy 15-08 ("*Incorporation of the Reasonable Use Concept Into MOEE Groundwater Management Activities*").

It is important to note that even though an applicant may meet the requirements of Section 5 of this Guideline, the Director reserves the right to require more detailed assessment or to



designate any site or area of a municipality as subject to Policy 15-08 under Notice 3/87. The likelihood of this occurring is greater where:

- (a) conditions outlined in Section 5.1 are not met;
- (b) the development proposed has a higher density than previous development proposals in the municipality;
- (c) the scale of the proposal is such that an increased degree of assurance is appropriate; or
- (d) it is known that there are existing high levels of groundwater contamination by nitrate-nitrogen.

When these environments are encountered or these developments are proposed, the Director's support may be conditional upon the establishment of monitoring programs and financial assurances as outlined in the "Guideline for Applying Policy 15-08 to Large Subsurface Sewage Disposal Systems".

Although the Director may support a proposal involving individual on-site sewage systems and permit their installation, the Director does not assume responsibility for failure of the system(s), for correcting the damage to adjacent properties, or for the construction of new sewage systems. This is the responsibility of the proponent/owner of the system.

## **5.0 GROUNDWATER IMPACT ASSESSMENT IN NON-DESIGNATED AREAS**

### **5.1 General Evaluation**

The groundwater impact assessment will address the ability of the lands, identified by and restricted to the development proposal document, to treat sewage effluent to meet acceptable limits. This assessment, and the assessment described in the "Technical Guideline for Private Wells: Water Supply Assessment", should be completed and submitted together as one document. Approval Authorities (i.e. the Ministry of Municipal Affairs and/or designate) should only consider support for development applications involving individual on-site sewage systems where the proponent and/or the consultant has:

- (a) in conjunction with the municipality, defended the use of private services to the satisfaction of the MOEE Regional Director in accordance with the "MOEE Guideline on Planning for Sewage and Water Services" and with MMA's "Growth and Settlement Policy Guidelines";
- (b) demonstrated to the local Health Unit (or to the MOEE, in those areas where MOEE administers the Part VIII Program) that the site complies with the requirements of Ontario Regulation 358 and related policies and guidelines;

- (c) determined the representative existing background nitrate-nitrogen levels in the receiving groundwater. This determination will involve the collection of groundwater samples from various locations on and adjacent to the development site. The consultant must provide a clear rationale for the number of times the site is sampled, the period of time over which the sampling has been undertaken (capturing seasonal variations), and the manner in which this information is used in the assessment. The consultant must discuss the existing background nitrate-nitrogen concentrations relative to nitrate sources, and the susceptibility of groundwater to contamination.

The Ministry will normally not support development in areas where background nitrate-nitrogen concentrations exceed 10 mg/L. Where nitrate concentrations between 0 and 10 mg/L are found, the MOEE may also decide not to support development if the proponent's consultant cannot provide a reasonable explanation for the existing levels of nitrate concentration in the groundwater. However, if it can be demonstrated that existing levels of nitrates are the result of historical agricultural practices on the site (for example farming, feed lot, etc.), the proponent may be able to argue that the nitrate levels will decline after development, and;

- (d) demonstrated that the area is not obviously hydrogeologically sensitive (for example, karstic areas, areas of fractured bedrock exposed at surface, areas of thin soil cover, or areas of highly permeable soils).

It is not the intent of MOEE to promote the development of areas with high infiltration rates (for example, sandy overburden deposits). Due to lack of effective effluent treatment, proposed development on individual on-site systems should not be approved in soils which have high infiltration rates.

## 5.2 Three-Step Assessment Process

Every proposed development involving individual on-site sewage systems requires an assessment of the groundwater impact potential. The purpose of the assessment is to ensure that the combined effluent discharges from all the individual on-site sewage systems in a development will have a minimal effect on the groundwater and the present or potential use of the adjacent property. For the purposes of this Guideline, the ODWO of 10 mg/L of nitrate-nitrogen is used as an indicator of groundwater impact potential. This Guideline does not define a precise methodology for determining the expected level of impact; however, it does set out the major considerations which should be included in a defensible assessment of the impact potential.

The assessment involves a three step process. The need to advance to the next step depends on the conditions defined in the previous step. The process is dependent on first satisfying the general requirements defined in Sections 4.0 and 5.1.

The first step involves a definition of the proposed development's minimum lot size. If the minimum lot size is smaller than that defined in Section 5.4, the assessment must progress to the second step, which involves evaluating the relationship between the individual on-site sewage systems and the groundwater. Where it cannot be demonstrated that the systems are isolated from existing or potential groundwater supplies, it will be necessary to progress to the final step of the assessment, which involves a detailed examination of contaminant loading to the groundwater.

Where a report is found to be incomplete, draft or preliminary, or makes unsubstantiated claims, the MOEE will advise the proponent by letter with regard to the report's deficiencies. MOEE may not undertake a full review until such time that a complete report (i.e., one which satisfies the requirement of this Guideline) has been submitted.

### **5.3 Fundamental Considerations**

- (a) For the purposes of this guideline, the only exceptions to the use of groundwater for anything other than a drinking water supply shall be:
  - (i) For reasonable uses which involve water quality more stringent than defined by the Ontario Drinking Water Objectives (for example: providing baseflow to a cold water trout stream), or
  - (ii) At the Director's discretion.
- (b) Groundwater impact predictions shall be calculated for the development site property boundary.
- (c) The consultant must make recommendations regarding the optimum location and orientation of leaching beds. In general, the attenuative capabilities of a site can be optimised by maximising separation distances between individual on-site systems and downgradient wells and property boundaries.
- (d) Where applicable, the impact of the on-site discharge of sewage effluent into surface water must be evaluated. This work must be done by qualified individuals and must address potential impact from phosphorus and other parameters which may be of concern (see the MOEE publication "Provincial Water Quality Objectives", and contact your local Regional Office). The concentration of phosphate used in assessing the potential impact of sewage effluent should normally be 15 mg/L.

### **5.4 Step One: Lot Size Considerations**

For developments where the lot size for each private residence within the development is one hectare or larger, the risk that the boundary limits imposed by these guidelines may be

exceeded by individual systems is considered acceptable in most cases. Developments consisting of lots which average 1 hectare (with no lot being smaller than 0.8 ha), may not require a detailed hydrogeological assessment, provided that it can be demonstrated that the area is not hydrogeologically sensitive. In such circumstances, it is the responsibility of the proponent to obtain a professional analysis from a qualified consultant that the area is not hydrogeologically sensitive.

It is assumed that attenuative processes within a one hectare lot will be sufficient to reduce the nitrate-nitrogen to an acceptable concentration in groundwater below adjacent properties. It should be noted that sufficient attenuative processes may not be present in hydrogeologically sensitive environments, or where there is little water surplus available.

### 5.5 Step Two: System Isolation Considerations

Where proposed lot sizes are less than one hectare, the proponent and/or the consultant is/are responsible for assessing the potential risk to groundwater. Developments will normally be considered as low risk where it can be demonstrated that sewage effluent is hydrogeologically isolated from existing or potential supply aquifer(s). In making this assessment, the proponent and/or the consultant must:

- (a) evaluate the most probable groundwater receiver for sewage effluent: its definition must be defended by hydrogeological data and information obtained through a test pit, auger hole and/or test drilling program; and
- (b) define the most probable lower hydraulic or physical boundary of the groundwater receiving the sewage effluent.

The consultant must clearly define those portions of the subsurface which will be affected by the effluent. Detailed predictions of the shape of individual contaminant plumes and a description of specific contaminant concentrations over space and time may not be required.

The potential for isolation must be assessed on a site specific basis and may involve assessments of geologic and/or hydraulic boundaries. Please note that this may require hydrogeologic assessment of lands up to 500 metres beyond the actual development boundary.

In some cases, it may be necessary to demonstrate isolation from sensitive surface water environments. Wherever there is a potential for surface water impact, the proponent should contact the MOEE Regional Surface Water staff.

When it has been demonstrated that the sewage effluent will not enter supply aquifers, the lot density of the proposed development may be dictated by factors such as the need for sewage system replacement areas (i.e., contingency area), and by the minimum distances between individual on-site beds and wells, as defined by Ontario Regulations 358 and 903.

## 5.6 Step Three: Contaminant Attenuation Considerations

Where it cannot be demonstrated that the sewage effluent is hydrogeologically isolated from all existing or potential supply aquifers, a hydrogeologic study is required to assess the risk that the development's individual on-site systems will cause concentrations of nitrate-nitrogen in groundwater to exceed 10 mg/L at the downgradient property boundary. As described below, there are various methods by which this detailed risk assessment can be done.

### 5.6.1 Monitoring-Based Assessments

The Ministry recognises that groundwater, infiltrating precipitation and sewage effluent will not be completely mixed at the property boundary. It is also recognised that processes such as absorption, denitrification, filtration and biodegradation may attenuate contaminants as the effluent passes down through the unsaturated zone and moves into the saturated zone. Since these processes are extremely difficult to quantify with any accuracy, they are usually only considered as a safety factor. However, if the consultant can provide documentation to the satisfaction of MOEE regarding the presence and extent of these processes on-site, their impact on nitrate concentrations will be considered. As discussed below, there is a number of ways in which this can be done.

#### (a) Existing Development

In some situations, there may be nearby on-site sewage system-based development in a similar hydrogeological environment. If this development has been in place for a lengthy period of time, information on existing groundwater quality could be used to demonstrate the combined effect of all available attenuative processes. This empirical information may then be used to help predict the impact of the proposed development.

The onus is on the proponent and/or the consultant to demonstrate adequately that:

- (i) the existing and proposed developments are located in similar hydrogeological environments;
- (ii) sewage effluent (quantity and quality) from the existing and proposed developments are comparable;
- (iii) monitoring produces results which accurately represent water quality conditions beneath the existing development. The consultant must provide a clear rationale for the number of times the site is sampled, the period of time over which the sampling has been undertaken (capturing seasonal variations), and the rationale for the way in which this information is used in the assessment.

In general, monitoring of groundwater quality should be concentrated close to the existing individual on-site systems. Due to effluent plumes possibly forming discrete, elongated shapes, intensive monitoring may be required to ensure that monitoring wells located further

from the individual on-site systems are measuring effluent concentrations within the effluent plume(s). Water supply wells are not meant to be used as monitoring wells.

**(b) Phased Development**

In situations where there is no existing development, it may be possible to develop lands considered in the planning document in phases, beginning with the upgradient portion. Information obtained from monitoring effluent discharged from individual on-site systems in the upgradient phase, and its impact on groundwater, can then be used to determine the extent to which the downgradient portion of the site can be developed. Before approving such a phased development, the Ministry must be satisfied by the Ministry of Municipal affairs (MMA) or the delegated planning approval authority, that adequate planning controls are in place to regulate development of the downgradient portion of the site.

**5.6.2 Predictive Assessment - Residential Development**

The Ministry requires the following considerations and assumptions to be used in assessing the combined impact of individual on-site sewage systems at the boundary of residential developments:

- (a) Contaminant Source:** In most cases total nitrogen (all species) converted to nitrate-nitrogen is considered as the critical contaminant. For the purposes of predicting the potential for groundwater impacts, a nitrate loading of at least 40 grams/lot/day per residential dwelling unit shall normally be used.
- (b) Contaminant Attenuation:**
  - (i)** In assessing contaminant attenuation, only dilution will be accepted by the Ministry as a quantifiable attenuation mechanism for nitrate.
  - (ii)** Dilution models involve dilution with infiltrating precipitation. Mixing with groundwater flowing through the site will normally not be allowed because it is usually not possible to control upgradient land uses. Flow through will not be considered where sensitive hydrogeological conditions exist. However, where upgradient lands have been fully developed for a considerable period of time, the quantity and quality of groundwater flow available to dilute the effluent entering the receiving groundwater may be considered.
  - (iii)** The amount of available moisture surplus should normally be obtained from Environment Canada. Where available, reliable, long-term, site specific information, obtained from detailed water balance and/or groundwater studies, can be used.



- (iv) Estimates of the amount of this surplus which infiltrates into the ground must be based on site specific factors such as soils, topography, surface geology, and impermeable areas (including roof tops and paved areas).
- (v) The volume of sewage effluent, if used as dilution water in mass balance calculations, should not exceed 1000 L/day/lot.
- (vi) Mathematical (computer) models may be used to assess the impact potential. Although the selection of model software will be left to the proponent, the Ministry must be provided with information on the model's validation and how its limitations and assumptions affect the results. All model simulations must include appropriate sensitivity analyses.

It is the intent of MOEE to allow only those dilution models to be used which are reasonable and can be defended on a site specific basis. Where the Ministry has concerns regarding the predicted impact, the Regional Director may consider designating the development under Notice 3/87.

### 5.6.3 Predictive Assessment - Industrial/Commercial Development

This guideline only applies to developments which have an average daily flow of less than 4,500 L/day/lot. Developments with larger flows will be assessed according to MOEE's Policy 15-08. In addition, the sewage assessed should consist of domestic wastes only. No industrial/commercial cooling or process wastewater is to be considered.

The nitrate loading from industrial/commercial individual on-site systems can vary greatly depending on the type and intensity of use. Since specific uses for each lot or block are not known at the planning document review stage, it is necessary to determine how much nitrate can be discharged from each individual on-site system without exceeding the ODWO of 10 mg/L at the property boundary. The following procedure is then used to set maximum allowable effluent flows for each lot:

#### (a) Available Infiltration:

- (i) The amount of available moisture surplus should normally be obtained from Environment Canada. Where available, reliable, long-term, site specific information, obtained from detailed water balance and/or groundwater studies, can be used.
- (ii) Estimates of the amount of moisture surplus which infiltrates into the ground must be based on site specific factors such as soils, topography, surface geology, and impermeable areas (including roof tops and paved areas).

**(b) Maximum Allowable Flow:**

The maximum allowable flow for each lot or block in the industrial/commercial development can be calculated by dividing the amount of available infiltration {from (a)} by a factor of three.

**(c) Maximum Number of Users:**

To determine the maximum number of users which can be supported by the calculated allowable flow, please refer to Appendices 9.3.1 and 9.3.2 of MOEE's "Manual of Policy, Procedures and Guidelines for On-Site Sewage Systems." Restrictions regarding the allowable number of users will normally be incorporated as recommendations in the consultant's assessment, and the recommendations shall be implemented by provisions in the development agreement between the proponent and the municipality.

## **5.7 Additional Research**

The Ministry recognises that the assumptions required for allowing a predicted level of 10 mg/L to be used as a boundary target criterion, for exempting lots of one hectare, or for using nitrate-nitrogen as the critical contaminant etc., may not be technically supported in every case. The Ministry recognises that as research continues, information and technologies may become available which warrant minor or substantial revisions to this guideline.

## **6.0 IMPLEMENTATION**

MOEE staff will implement this guideline through comments and advice supplied to municipalities, the public, and the approval Authority on planning documents circulated under the *Planning Act*.

For development applications (official plan amendments, plans of subdivision or condominium) involving more than five lots with individual on-site sewage systems, the approval Authority must ensure that an impact assessment has been completed in accordance with this Guideline which demonstrates that the impacts on ground and surface water of the proposal will be within acceptable limits. Shoreline development proposals will be reviewed on a case-by-case basis. The groundwater impact assessment must be approved by MOEE prior to its recommendation that draft approval be granted for plans of subdivision and condominium, and prior to approval of most official plan amendments.

As part of MOEE's recommendation that draft approval be granted, MOEE will request a condition of final approval which specifies that the MOEE receive a copy of a fully-executed subdivision/condominium agreement or other suitable development agreement between the municipality and the developer. The agreement will require that the recommendations of the impact assessment report as approved by MOEE (or its agents) be implemented.



For industrial or commercial development applications involving individual on-site systems, the approval Authority should ensure that a municipal by-law is enacted for the subject lands restricting the industrial/commercial uses to "dry industrial/commercial uses".

## 7.0 DEFINITIONS

**Combined Impact:** This refers to the blended impact of all the individual on-site systems on the development site. The impact of the system's effluent discharge on groundwater is not assessed on a plume by plume basis.

**Director:** Either the Director under Part VIII of the *Environmental Protection Act* or the Regional Director of the MOEE.

**Individual On-site Sewage System:** An on-site Class 4 or Class 6 sewage system regulated by Ontario Regulation 358 under the *Environmental Protection Act*.

**Supply Aquifers:** For the purposes of this guideline, a supply aquifer is defined as groundwater which is or which may be used to provide domestic water supply(ies). Designation of groundwater for other than domestic consumption is at the Director's discretion (see Section 5.3).

**Dry Industrial/Commercial Uses:** Those uses in which only the disposal of the domestic waste of employees is permitted and treated. No industrial liquid wastes, wash or cooling water or process wastes are permitted.

**Hydrogeologically Isolated:** Those areas characterised by strong upward hydraulic gradients; massive, unfractured clay deposits at or near ground surface; or other thick impervious layers of materials over water-bearing formations.

## 8.0 REFERENCE DOCUMENTS

Other documents that should be used in conjunction with this Guideline include:

1. "Growth and Settlement Policy Guidelines", Ontario Ministry of Municipal Affairs.
2. "Policy on Planning For Sewage and Water Services", Ontario Ministry of the Environment and Energy (MOEE).
3. "Technical Guideline For Water Supply Assessment For Private Wells: Water Supply Assessment", MOEE.
4. "Manual of Policy, Procedures and Guidelines for On-site Sewage Systems", MOEE.

5. "Class Environmental Assessment for Municipal Sewage and Water Projects",  
Municipal Engineers Association.
6. "Class Environmental Assessment Document: Expansion or Upgrading of an  
Existing Sewage or Water System"; Ecologistics Limited and MOEE.

**PROCEDURE D-5-5**

**TECHNICAL GUIDELINE FOR PRIVATE WELLS:  
WATER SUPPLY ASSESSMENT**

**Last Revision**

October 11, 1994

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## 1.0 STATEMENT OF PRINCIPLES

This guideline describes the position of the Ministry of the Environment and Energy (MOEE) regarding the assessment of water supplies for developments on individual private wells. The Guideline is based on MOEE experience with development utilising individual wells, and reflects the need to ensure that future owners of lots or homes have a high probability of being able to obtain adequate quantities of potable water for domestic consumption over both the short and long term.

This guideline is presented for use with the understanding that the use of individual private wells has been justified by the municipality or the local planning authority. This justification includes an evaluation of alternative types of servicing. The Ministry encourages municipalities to plan for environmentally appropriate servicing infrastructures by undertaking comprehensive, large-scale assessment of groundwater and surface water resources (please refer to "MOEE Policy on Planning for Sewage and Water Services").

MOEE Policy No. 15-06, "Drinking Water Quality: Ontario Drinking Water Objectives" (ODWO), is made under the authority of the *Ontario Water Resources Act* (OWRA). The Policy deals with the protection and enhancement of drinking water quality as described in the document entitled "*Water Management - Goals, Policies, Objectives and Implementation Procedures of the Ontario Ministry of the Environment and Energy*," (MOEE Policy 15-01). The primary purpose of Policy 15-06 is to protect public health and encourage the provision of aesthetically pleasing water. Water intended for human consumption should not contain any disease-causing organisms or hazardous concentrations of toxic chemicals or radioactive substances. Aesthetic considerations also provide a basis for drinking water objectives since the water should be pleasant to drink.

Although MOEE does not normally review development proposals consisting of five or fewer private residences, the Ministry recommends that supplies serving five or fewer private residences should use the ODWOs to ensure the quality of drinking water. (See "*Ontario Drinking Water Objectives*", *Ontario Ministry of the Environment and Energy*.) This recommendation may apply to development by consent or at the official plan amendment stage in certain areas; contact the local MOEE Regional office for further information.

The *Ontario Water Resources Act*, RSO 1990, obliges the MOEE to comment on the quality of private water supplies which are part of development proposals submitted to the MOEE for review.

*Ontario Regulation 903* establishes standards and regulations concerning well construction.

With respect to proposals involving individual on-site sewage systems (subsurface sewage systems), a separate guideline for the assessment of the impact of such systems on adjacent lands is available from the MOEE office in your Region. The title of the Guideline is

*Technical Guideline for Individual On-site Sewage Systems: Water Quality Impact Risk Assessment.*

With respect to communal water supply systems to serve more than five private residences, a Certificate of Approval, and possibly a Permit to Take Water will be required. For communal sewage systems, a Certificate of Approval will be required. For more information on communal systems, please contact the MOEE office in your area.

## **2.0 OBJECTIVES**

The objectives of this guideline are as follows:

- (a) to provide technical guidance to professionals involved in land development (in particular, hydrogeologists) in the assessment of groundwater quality and quantity;
- (b) to provide an interpretation of the application of MOEE policy to development of individual private well water supplies; and
- (c) to ensure that development proposals are submitted with the required technical support.

## **3.0 APPLICATION**

The guideline applies to all development proposals for residential development involving individual well water supplies. Development agreements between the proponent and the municipality, or its equivalent in unorganised areas, shall be used to bind development to the recommendations of approved hydrogeology studies.

The guideline also applies to developments for which a plan of condominium is required and to industrial, commercial or institutional developments where water is used for human consumption. Please contact your regional MOEE office for information on the applicability of the guideline to a particular development of this type.

## **4.0 INFORMATION REQUIREMENTS**

The guideline applies to all development proposals for residential development involving individual well water supplies. Development agreements between the proponent and the municipality, or its equivalent in unorganised areas, shall be used to bind development to the recommendations of approved hydrogeology studies.

The guideline also applies to developments for which a plan of condominium is required and to industrial, commercial or institutional development where water is used for human

consumption. Please contact your regional MOEE office for information on the applicability of the guideline to a particular development of this type.

#### 4.1 General

A hydrogeological study will be required by MOEE prior to recommendation of draft approval for plans of subdivision and condominium, and may be required prior to approval of official plan amendments which would permit development on private services. The study must be performed and a report submitted to the MOEE at the time of circulation of the proposed official plan amendment or plan of subdivision. The report must address concerns relative to the following:

- Future residents must be provided with water for domestic consumption that is of acceptable quality and of adequate quantity.
- Appropriate well construction techniques must be followed in order to minimise the possibility of well water quality degradation.
- There must be minimal adverse effects on well water in the development from sources of contamination on the site or on adjoining lands.
- Developments must not result in water quantity interference conflicts between users in the development and users on the adjoining lands.

With respect to **quality**, each future domestic well must provide water that is safe and aesthetically suitable for human consumption. The suitability of the water for domestic use is determined by comparing the results of the analysis of ground water samples from test wells with the applicable ODWOs (see Section 4.4 and the Appendix).

With respect to **quantity**, each future domestic well must provide sufficient water for normal domestic purposes (see Section 4.3 "Well Water Quantity Testing"). This will be determined mainly on the basis of data from pumping tests in test wells.

After its initial review of a hydrogeological study report, the MOEE may advise the consultant and the proponent that additional information be supplied, or recommend that further work be done. The advice and recommendations must not be construed as conditions of approval but rather as suggestions for those cases where the proponent wishes to continue to pursue approval. Ultimately, it is the hydrogeology of the site itself which will determine whether a proposal is acceptable.

When a report is found to be incomplete, draft or preliminary, or makes unsubstantiated claims, the MOEE will advise the proponent by letter with regard to the report's deficiencies. The MOEE may not undertake a full review until such time that a complete report (i.e., one which satisfies the requirements of this Guideline) has been submitted.

## 4.2 Test Well Requirements

Site assessment for water supplies from wells must be undertaken as follows:

- (i) The minimum number of test wells will be:
- 3 for sites up to 15 hectares in area;
  - 4 for more than 15 and up to 25 hectares;
  - 5 for more than 25 and up to 40 hectares;
  - for more than 40 hectares, one additional test well for each additional 20 hectares or portion thereof.

Where development by severance is considered, determination of the availability of a potable water supply should be made as early as possible in the severance approval process.

In areas where groundwater quantity or quality are considered marginal with respect to domestic requirements, as many as one test well per lot may be required;

- (ii) The areal distribution of test wells must be such that hydrogeological conditions across the site are adequately represented. Depending on the areal configuration and hydrogeological complexity of the site, more than the minimum number referred to in section i) may be required;
- (iii) Consideration must be given to past or present land uses. Existing improperly abandoned wells should be identified since they may impact on ground water. Moreover, any contaminant spills on or adjacent to the site which may affect water quantity or quality should be identified and evaluated for their impact on groundwater.
- The test well(s) should be located in an area which would permit a proper assessment of these impacts;
- (iv) Test wells must be located and constructed in such a way as to permit the prediction of the quantity and quality of groundwater which domestic wells will supply in the future. Accordingly, the construction of these wells must be typical of wells which will be used in the development in the future, and must comply with *Ontario Regulation 903*, with the requirements of other jurisdictions, and with any additional specifications recommended by the consultant and/or MOEE.



Existing water wells located on the site or in the immediate proximity of the site may be used as test wells, provided they fulfil i) to iv) above, and are fully incorporated into the well water quantity and quality testing programs described in the sections below. The use of existing wells and of the data obtained from them **must** be justified in the report as being technically appropriate; however, there must be at least one test well, new or existing, located on the site.

If the consultant and licensed well contractor properly locate and construct the test wells, or if there are pre-existing wells on the property which meet the requirements of iv) above, the developer may use them later as domestic water wells. They must, however, yield potable water and meet the construction requirements indicated in the approved study recommendations, which are implemented by provisions in the development agreement between the municipality (or its administrative equivalent) and the proponent. If any such wells are not to be maintained for future use, they must be properly abandoned as required by *Ontario Regulation 903*; abandonment must be recommended in the hydrogeological study report and must be implemented by the development agreement. To ensure that the recommendations of the report are properly implemented, the consultant's report may include recommendations for supervision of well construction by a qualified consultant at the time the well is being constructed by the (licensed) well contractor.

### 4.3 Well Water Quantity Testing

Each of the test wells must be subjected to a pumping test. The tests may be done sequentially, using the other wells as observation wells, or several wells could be pumped simultaneously. The report must contain all well logs, Water Well Records, raw pumping test data and graphs, and hydrogeological cross section(s), and must discuss the sustainability of domestic well yields, the potential for supply interference and site aquifer characteristics such as hydraulic gradient, transmissivity and boundary conditions. (Note that in most cases where on-site sewage systems are proposed, the impact assessment requires a determination of the hydraulic gradient.)

#### 4.3.1 Pump Test Procedure

The following pumping test procedure is recommended:

- the test wells should be fully developed prior to the pumping test in order to avoid unacceptable turbidity levels at the time of sampling;
- the pumping test must begin with a static water level and must be performed at a fixed rate ( $\pm 5\%$ ) for a minimum period of six hours (*The minimum duration of six continuous hours incorporates safety factors with respect to seasonal variables.*) (longer where supplementary storage systems are necessary) of "continuous" pumping (no stoppages); water levels must be monitored in the test well and observation wells at an appropriate frequency; water must be discharged at an

appropriate distance from the test wells to ensure that artificial recharge does not occur;

- immediately following the pumping test, water level recovery must be monitored in the test wells until 95% recovery occurs or for 24 hours, whichever is less; where sufficient recovery does not occur, the issue of the long-term safe yield of the aquifer is especially significant and must be addressed; and
- the test rate will be at least the minimum rate discussed below (also see Section 4.4.1.).

#### 4.3.2 Calculation of Minimum Test Rate and Well Yield

The minimum pumping test rate and well yield required for a particular development must be calculated as follows:

The per-person requirement shall be 450 litres per day. Peak demand occurs for a period of 120 minutes each day (*Refer to page 5 of the MOEE publication entitled "Water Wells & Ground Water Supplies in Ontario", 1989. The per-person daily demand used here is the upper limit of the estimated range.*). This is equivalent to a peak demand rate of 3.75 litres/minute for each person. The basic minimum pumping test rate is this rate multiplied by the "likely number of persons per well" which, for a single family residence, shall be the number of bedrooms plus one. Unless it is otherwise established to MOEE's satisfaction, a **minimum** of four bedrooms shall be used in the calculation. However, regardless of the results of this calculation, this rate shall not be less than 13.7 litres /minute.

The only instance where rates lower than these may be used is where preliminary results indicate that the pumping test rate cannot be sustained in the long term, and consideration is given to systems which would compensate for low well yields. In this case, the rate of test pumping may be decreased, but the duration must be proportionately increased such that the total amount pumped equals the amount that would have been pumped if the test had been conducted using the procedures and minima discussed above. The yield requirement must then be applied to the well and to the compensatory system on a daily basis. These systems and any special water treatment devices that may be necessary for their proper functioning must be fully described in the report.

Regardless of whether systems to compensate for low yields are required, the report must demonstrate that future domestic wells will sustain repeated pumping at the test rate and duration at 24-hour intervals over the long-term.

Where a test well can safely provide water at the calculated rate, it is not acceptable to conduct pumping tests at low rates and subsequently recommend the use of systems to compensate for low well yields simply in order to limit the migration of poorer quality water into the well.

Consultants must provide a statement indicating that, in their professional opinion, the probable well yields determined on the basis of their investigations are representative of the yields which residents of the development are likely to obtain from their wells in the long term.

#### **4.3.3 Additional Information**

Shallow wells and unconfined aquifers are susceptible to seasonal fluctuations in water level. In these cases, the consultant must address this issue and may need to perform additional investigations to determine the possibility of future well water quantity problems.

Groundwater heat pumps which do not return water to the aquifer of origin are not permitted. If treatment systems which require additional amounts of water for their operation are to be used, those rates must be added.

Consultants should address the issue of whether the groundwater withdrawals in the proposed development and in other existing or planned developments in the area will exceed the long-term safe yield of the aquifer, or significantly decrease baseflow to sensitive water courses (trout streams, etc.). Relevant information may be available from the local planning authority, other ministries and agencies, municipal offices, and local residents.

Where there is established development in the vicinity, information from residents and other sources regarding well yield problems (water shortages, replacement wells etc.) should be obtained.

### **4.4 Well Water Quality Testing**

#### **4.4.1 Raw Water Quality**

The consultant must obtain and analyse sufficient water quality samples during each pumping test in order to determine the physical, chemical and bacteriological quality of the water. At least one of these samples must be collected during the last hour of the test. It is the consultant's responsibility to address water quality changes over time and to demonstrate that the water quality data are representative of the quality of water which future residents can expect in the long term.

Prior to any testing for water quality, there must be no chlorine residual. Chlorine residual tests must be performed at the well head at the time that bacteriological samples are obtained, and must be reported.

Where there are wells in nearby established developments, information should be obtained from residents, where possible, and other sources regarding water quality problems. If on-site sewage systems are used in the existing development(s) and are also to be used in the proposed development, well water samples from the existing development should be obtained

and analysed. The consultant should use this information to predict the impact of the proposed on-site sewage systems on water quality within the proposed development.

Water quality may vary between aquifers or with depth in the same aquifer. The consultant should recommend appropriate well construction (see Section 4.5) and must comment on the potential for cross-contamination between aquifers.

Shallow and/or unconfined aquifers are susceptible to contamination from sources located at or near the ground surface. If wells are to be constructed within such aquifers, and especially where individual on-site sewage systems are also proposed, the consultant must address the risk of contamination and recommend measures which will reduce that risk.

The minimum set of parameters for which the analyses must be performed is listed in the Appendix, along with the applicable Ontario Drinking Water Objectives. Other parameters, such as heavy metals, pesticides, tannins, sulphide, phenols, and fluoride, may be required by the Regional MOEE office in your area. Please contact the office for more information. The consultant must also determine whether conditions specific to the site or its surrounding area require the inclusion of additional parameters. Complete documentation of sampling times, any on-site analytical methods, and all analytical results must also be included in the report.

If methane or other potentially explosive gases are encountered during the water supply assessment, the consultant must make recommendations to adequately control this hazard.

**NOTE:** Where health-related ODWOs or treatment limits for aesthetic ODWOs have been exceeded, the areas which the relevant test wells represent may have to be excluded from the proposed development site. In this case a justification for the selection of the boundary of the site is required.

#### 4.4.2 Treatment Systems

For some aesthetic parameters, the ODWOs may be exceeded provided that concentrations are below the treatment limits noted in Table 3. The Appendix lists these parameters, the limits for treatment and some comments on treatment methods. In cases where raw water sodium levels exceed 20 mg/L, warning clauses should be addressed to people on sodium restricted diets and should be registered on title. In addition, if water softening is utilised to reduce hardness, a warning should be registered on the title with a recommendation that a separate tap, which by-passes the softener, be installed to supply unsoftened drinking water.

If the raw water from the wells exhibits values for aesthetic parameters that are above the ODWOs but below the treatment limits, or if supplemental storage systems are proposed which require special treatment systems, the municipality's assent to development based on treatment systems must be obtained in the form of a Resolution of Council, prior to MOEE recommending draft approval (see Section 5.0 Implementation).

If treatment is required, "Comments on Treatment" listed in Table 3 of the Appendix are provided for the purpose of assisting applicants and municipalities in deciding whether development based on treatment systems should proceed. Prior to the municipality considering approval of the development proposal and/or Official Plan Amendment, it is the applicant's responsibility, based on advice from a qualified consultant, to satisfy the municipality that the concept of using treatment systems is appropriate. MOEE staff will not comment on the acceptability of the various proprietary treatment systems available.

The treatment systems mentioned in Table 3 of the Appendix are suggested for treatment for single parameters. When treatment for more than one parameter is required, the systems suggested may not be appropriate due to treatment process interferences. The consultant must supply recommendations regarding the type of treatment required.

#### 4.5 Well Construction

Construction specifications for future domestic wells in the proposed development must be addressed by the consultant in the hydrogeological report. Minimally, the construction of both the test wells and future domestic wells must comply with Ontario Regulation 903 made under the *Ontario Water Resources Act*, and with municipal requirements - where applicable.

When on-site sewage systems are proposed, or when they already exist on adjacent property, protection of the wells from contamination by effluent must be addressed.

When shallow and/or unconfined aquifers are to be used, the consultant must recommend construction specifications and well locations to address the issue of the susceptibility of such aquifers to contamination from sources at or near the ground surface.

Water quality may vary between aquifers or with depth in the same aquifer. The consultant should recommend appropriate well construction, methods and requirements, and must comment on the potential for cross-contamination between aquifers.

The consultant or the MOEE may wish to recommend additional site-specific construction criteria and/or supervision of well construction by qualified staff. In studies in which the consultant's **initial** findings show that water quality or quantity standards cannot be met without special well construction specifications, the initial data which led to these conclusions must be included in the report. The structure of the test wells on which the **final** quantity and quality data are based must meet these specifications and the wells must be tested according to the procedures stipulated in this Guideline, in order for the data to be deemed representative.

Subsections 13(2) and 13(3) of *Ontario Regulation 903* require that wells be constructed such that the casing of a drilled well protrudes at least 30 centimetres above ground surface or above the floor of a well pit. Well water contamination caused by the entry at the well head of water originating at or near the surface may occur if the well head is buried.



Subsection 20(3) requires that the well owner maintain the well in a manner sufficient to prevent such contamination. Where well heads are buried, locating, inspecting and servicing the well are difficult and expensive.

Subsections 13(2), 13(3) and 20(3) are often contravened when, after a well is constructed, contractors or residents bury the well head for reasons of convenience or aesthetics. Contractors and residents should be reminded of the intent and requirements of these portions of the Regulation, and of their responsibility to ensure that the finished grade of the ground surface allows the casing to protrude the required distance. This is necessary to prevent ponding at the well head or, in the case of well pits, prevents flooding of the pit. Where flowing well conditions occur, the requirements of Regulation 903 must be met.

#### 4.6 Land and Water Use Conflicts

Land uses within a minimum of 500 m of the site must be described. Where wells exist on or adjacent to the site, a survey of well owners, and sampling and analysis of representative well water, should be performed and reported. The potential for an adverse impact on the development must be addressed, when there have been, are, or may in the foreseeable future be significant potential sources of groundwater contamination (e.g., from old, operating or proposed waste disposal sites, road salt storage facilities, farming activities, locations of contaminant spills, etc.), or potential causes of quantity interference with groundwater resources or well water supplies (e.g., from municipal wells, dewatering activities, etc.) within a minimum of 500 metres of the site. The issue of whether additional water quality parameters should be included in the testing must also be addressed.

#### 4.7 Phased Developments

Where a development application relates to an **additional** phase of a phased development, even though previous phases may already have been approved on the basis of previous hydrogeological studies which encompassed those phases or the entire site, a supplementary study and report is required. Water samples from wells that are located on nearby developed lots in previous phases that are in use and representative of the same formation, must be analysed for the required parameters, and the well owners should be interviewed (where possible) regarding their experience with their well water quantity and quality. This information, as well as the Water Well Records and a map showing the locations of all wells in previous phases, must be provided. The original hydrogeological report must be re-assessed in light of the new information obtained and according to any **new** criteria or guidelines which may not have been in effect at the time of the original study. Where well water quality or well yield in the previous phases are not comparable to that found in the original test wells or predicted by the original hydrogeological study, the new study should investigate and explain the causes and provide new recommendations based on a re-assessment of the original report. Where new guidelines require information which is not included in the original report, the new report must provide it.

If the new phase does not contain test wells from the original study, new ones must be installed. Where additional study involving new test wells is necessary, most or all of the criteria set forth in this Guideline will apply. Consultants should discuss these issues with MOEE staff before proceeding.

## 5.0 IMPLEMENTATION

MOEE staff will implement this guideline through comments and advice supplied to municipalities, the public, and approval authorities on documents circulated under the *Planning Act*.

It should be noted that the MOEE will not recommend approval for official plan amendments and draft plans of subdivision or condominium unless the MOEE (or its agents) is satisfied that the hydrogeological report demonstrates that sufficient water is available. Where groundwater of adequate quality and quantity is demonstrated to be available to service the proposed development, the MOEE will require, as a condition of final approval, that the MOEE receive a copy of a fully executed subdivision or condominium agreement or other suitable development agreement between the municipality and the developer, which requires that the recommendations of the hydrogeological report as approved by the MOEE (or its agents) be implemented. The municipality should ensure that MOEE comments have been adequately addressed within the fully executed agreement.

If groundwater open loop heat pumps are being considered for use in the proposed development, they must be included in the hydrogeological study to ensure that domestic potable water supplies will not be adversely impacted. If the issue of groundwater heat pumps is not addressed in the report, MOEE will request that a condition be placed in the development agreement indicating that the use of groundwater heat pumps has not been approved as part of the development.

The possibility of using systems to compensate for low well yields (for example, controlled pumping to supplementary storage) is discussed earlier in this Guideline. However, while the MOEE may provide technical guidance, it is the municipality's responsibility to decide whether development on the basis of such systems should be allowed. If the municipality agrees to their use, notification must be given through the development agreement between the municipality and the proponent(s). The municipality shares responsibility with the proponent(s) for ensuring that the terms of the development agreement are completed.

With respect to water **quality**, the following will apply (except for the 20 mg/L warning level for sodium):

- Where health and aesthetic ODWO criteria are met, MOEE will comment favourably on approval of the Official Plan Amendment or on draft approval of the Plan of Subdivision or Condominium.

- Where health-related ODWO criteria are **not** met, MOEE will recommend **against** approval of the proposal on the basis of individual wells.
- Where health-related ODWO criteria are met **but** aesthetic objectives are exceeded, it may be possible to use in-home water treatment systems to reduce the values of the aesthetic parameter(s) concentrations to a level below the limits, and thereby meet the objectives.

This guideline lists concentrations considered treatable for several aesthetic parameters and some possible treatment systems (see Table 3 of the Appendix). However, it is the municipality's responsibility to decide whether development on the basis of in-home treatment systems should be permitted. Following MOEE's review of a study which includes recommendations for such treatment, MOEE will notify the municipality (or its equivalent), the proponent, and the consultant that MOEE will only recommend draft approval following receipt of a Resolution of Council. The Resolution must advise that the municipality concurs with development based on use of these systems. The development agreement between the municipality and the proponent shall contain provisions for implementation of the recommendations, including treatment, in the approved hydrogeology study. The municipality shares responsibility with the proponent for ensuring that the terms of the development agreement are carried out.

Where health objectives are exceeded or where treatment limits for aesthetic objectives are exceeded, the local municipality and the approving authority should only consider development on the basis of a communal water system. MOEE approvals are required for Water Works for municipal and communal systems, as defined under the *Ontario Water Resources Act* and set out in MOEE Policy 15-15, "*Treatment Requirements for Municipal and Communal Water Works Using Groundwater Sources*." The municipality shall assume ownership of and responsibility for the water works following completion.

## 6.0 DEFINITION

### Individual wells

Private water wells supplying five or fewer residences (or the equivalent for other types of development) are referred to in this guideline as "individual wells".

## 7.0 REFERENCE DOCUMENTS

Other documents that should be used in conjunction with this Guideline include:

1. "Growth and Settlement Policy Guidelines", Ontario Ministry of Municipal Affairs.
2. "Policy on Planning For Sewage and Water Services", MOEE.



3. "Technical Guideline for Individual On-Site Systems: Water Quality Impact Risk Assessment", MOEE.
4. "Drinking Water Quality: Ontario Drinking Water Objectives (ODWO)", MOEE Policy 15-06, summer 1992.
5. Ontario Water Resources Act, RSO 1990.
6. "Water Wells & Ground Water Supplies in Ontario", MOEE 1989.
7. Regulation 903, made under the Ontario Water Resources Act.
8. "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters", MOEE Policy 08-01.
9. "Water Management - Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment and Energy", 1984 (revised 1992), MOEE Policy 15-01.
10. "Treatment Requirements for Municipal and Communal Water Works Using Groundwater Sources", MOEE Policy 15-15.

## APPENDIX

## GROUNDWATER QUALITY PARAMETER TABLES

Published documents have been the main source of information regarding the water quality limits appearing in the tables below. Additional parameters may be required by the Regional MOEE office in your area. Also, when new water quality limits are formally instituted by the relevant authority, this guideline will be updated and an effort will be made to distribute the new requirements to interested parties. However, IT IS THE RESPONSIBILITY OF THE CONSULTANT TO APPLY THOSE CRITERIA WHICH ARE APPROPRIATE AT THE TIME THE STUDY IS PERFORMED AND REPORTED. It is, therefore, highly recommended that consultants maintain regular contact with the MOEE.

TABLE 1: HEALTH-RELATED BACTERIOLOGICAL PARAMETERS

PARAMETER	Ontario Drinking Water Objective (See Note 1)	COMMENTS
<i>Escherichia coli</i>	0	Indicators of contamination
<i>Fecal coliforms</i>	0	
<i>Total coliforms</i>	0	Indicator of possible or potential contamination

- 
1. These are expressed as the plate count per 100 ml of sample. Every bacteriological sample must be submitted for analyses for all the above and the lab reports must be accompanied by a report of the chlorine residual as measured at the time of sampling.

Exceedances must be explained and any re-sampling must be fully documented with respect to chlorine residual, rates and duration of pumping, etc.

While the stated ODWO for Total Coliform is 0 counts per 100 ml of sample, it is recognized that the objective has been set as an indicator of inadequate disinfection within the distribution systems associated with water works. For private water wells not subject to approval under the OWRA, the MOEE and Health Units have historically used the limit of <5 counts per 100 ml in the absence of a chlorine residual as indicating acceptable water quality. For the purposes of the assessment described by this Guideline, Total Coliform counts of less than 6 per 100 ml of sample (and 0 for E. coli and fecal coliforms) shall be considered as indicative of acceptable water quality. The chlorine residual must be zero before any bacteriological sample can be taken.

TABLE 2: HEALTH-RELATED CHEMICAL AND PHYSICAL PARAMETERS

PARAMETER	Ontario Drinking Water Objective (See Note 2)	COMMENTS
<i>Nitrate</i> (as N)	10.0 mg/L	contamination indicator; exceedance may be dangerous to infants and others
<i>Nitrite</i> (as N)	1.0 mg/L	contamination indicator
<i>Nitrate <u>plus</u> Nitrite</i> (as N)	10.0 mg/L	contamination indicators
<i>Sodium</i>	20 mg/L (See note 3)	levels may be significant for persons with medical conditions requiring low-salt diets
PARAMETER	Ontario Drinking Water Objective (see note 2)	COMMENTS
<i>Turbidity</i>	1 NTU or 1 FTU  (see note 4)	could indicate problems in construction or a naturally occurring problem; may interfere with water treatment
<i>Other parameters</i>	(see note 5)	

<sup>2</sup> Except for sodium, the Ontario Drinking Water Objective for parameters in Table 2 are Maximum Acceptable Concentrations under the Ontario Drinking Water Objectives. Units of

measure and, where required, conversion factors must be provided. For more information on the Objectives, refer to the MOEE publication entitled "Ontario Drinking Water Objectives".

<sup>3</sup> This health-related limit is a "warning level" only. Exceedance calls for a recommendation that the local Medical Officer of Health be notified in order to alert persons with relevant medical conditions. Sodium also has an Aesthetic Objective of 200 mg/L (see Table 3).

If water softening is used, a separate tap supplying unsoftened water should be used for drinking purposes.

<sup>4</sup> NTU = Nephelometric turbidity unit; FTU = Formazin turbidity unit. These terms are interchangeable. NTU is the term used in the ODWOs. For the purposes of this guideline, the consultant must note that if turbidity is present, particular care must be taken during testing to ensure that the bacteria requirements of Table 1 are met.

<sup>5</sup> See also section 5.5.1: "Raw Water Quality", above, regarding the responsibilities of the proponent or consultant to add parameters where necessary; the consultant must also provide the relevant information on any drinking water quality limits, including those from other jurisdictions.

TABLE 3: COMMON AESTHETIC, ANALYTICAL AND INDICATOR PARAMETERS

PARAMETER	General Comments	Ontario Drinking water Objective (see note 6)	Maximum Concentration considered reasonably treatable	Comments On Treatment
Alkalinity	useful analytical parameter	-	-	-
Ammonia	contamination indicators	-	-	-
Background Bacteria				
Calcium	see Hardness	-	-	-
Chloride	associated with salt problems	250 mg/L	250 mg/L	not considered treatable above the limit
Colour	associated with certain metals and organic substances	5 TCU (true colour units)	7 TCU	carbon filter treatment systems (see note 7)
Conductivity	useful analytical parameter	-	-	-
DOC (Dissolved Organic Carbon)	taste, odour, colour, turbidity, precursor for harmful contaminants after chlorination	5.0 mg/L (as C)	10.0 mg/L (as C)	carbon filter treatment systems
Hardness	taste, encrustation and reaction with soap	500 mg/L as CaCO <sub>3</sub> (see note 7)	-	water softener (see note 8)
Iron	may cause staining of plumbing fixtures and laundry	0.3 mg/L	up to 5.0 mg/L  5.0- 10.0 mg/L	water softeners or manganese greensand filters  oxidation with filtration through proprietary filter media or chlorination followed by sand or multimedia filtration

PARAMETER	General Comments	Ontario Drinking water Objective (see note 6)	Maximum Concentration considered reasonably treatable	Comments On Treatment
Magnesium	see Hardness	-	-	-
Manganese	may cause staining of plumbing fixtures and laundry	0.05 mg/L	1.0 mg/L	water softeners manganese greensand filters
pH	associated with corrosion or encrustation or contamination by other substances	6.5-8.5	-	-
Sodium	taste	200 mg/L (see note 9)	200 mg/L	not considered reasonably treatable above the limit
Sulphate	laxative	500 mg/L	500 mg/L	not considered reasonably treatable above the limit
TDS (Total Dissolved Solids)	corrosion or encrustation of metal fixtures or appliances; taste; must be measured independently of Conductivity; turbidity	500 mg/L	-	requires written rationale that corrosion, encrustation or taste problems will not occur
Turbidity	5 NTU or 5 FTU (see note 10)	5 NTU or 5 FTU	5 NTU or 5 FTU	-
Other parameters	(see note 11)	-	-	-

6. Except for hardness, the drinking water quality limits in Table 3 are Aesthetic Objectives under the Ontario Drinking Water Objectives. Units of measure and, where required, conversion factors must be provided. For more information on the Objectives, refer to the MOEE publication entitled "Ontario Drinking Water Objectives".
7. Higher, iron-related colour may be removed by manganese greensand treatment; however, the nature of the constituents causing excessive colour must be determined. See section 4.4.2: "Treatment Systems", above.
8. Generally, water with a hardness value of more than 300 mg/l is considered "very hard". The Ontario Ministry of the Environment publication entitled "Ontario Drinking Water Objectives",

revised 1983, states on page 41 that waters with hardness "in excess of 500 mg/l are unacceptable for most domestic purposes". A maximum treatable value is not available.

9. Sodium also has a health-related "warning level" of 20 mg/l (see Table 2). Since water softening results in high sodium levels, a separate tap, which supplies unsoftened water, should be installed for drinking purposes.
10. For the purposes of this guideline, the consultant must note that if turbidity is present, particular care must be taken during testing to ensure that the bacteria requirements of Table 1 are met.
11. See also section 4.4.1: "Raw Water Quality", above, regarding the responsibilities of the proponent or consultant to add parameters where necessary; the consultant must also provide the relevant information on any water quality limits, including those from other jurisdictions.



**GUIDELINE D-6**  
(formerly 07-09)

**COMPATIBILITY BETWEEN INDUSTRIAL  
FACILITIES AND SENSITIVE LAND USES**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Section 14*

*Environmental Assessment Act, RSO 1990, Section 5(3)*

*Planning Act, RSO 1990, Sections 2 (a) (b) (c) (f) (g) (h), 17(9), 22(3),  
41(4) and 51(3)*

*Condominium Act, RSO 1990, Section 50(3)*

*Niagara Escarpment Planning & Development Act, RSO 1990, Section 9*

**Responsible Director:**

Director, Environmental Planning & Analysis Branch

**Last Revision Date:**

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## SYNOPSIS

This guideline is intended to be applied in the land use planning process to prevent or minimize future land use problems due to the encroachment of sensitive land uses and industrial land uses on one another. The guideline is a direct application of Ministry Guideline D-1, "Land Use Compatibility" (formerly Policy 07-03).

This guideline encourages informed decision-making for Ministry staff as well as land use approval authorities and consultants, and assists in determining compatible mixed land uses and compatible intensification of land uses. The guideline is intended to apply when a change in land use is proposed, and the range of situations are set out in Section 2.0 "Application" of Guideline D-1. Responsibilities and various implementation techniques are discussed in Procedure D-1-1, "Land Use Compatibility: Implementation".

Adequate buffering of incompatible land uses is intended to supplement, not replace, controls which are required by legislation for both point source and fugitive emissions at the facility source. These emissions, which are difficult to control on-site, under all circumstances, all of the time, are associated with normal operating procedures. Appendix B contains information on the Ministry's legislative requirements (e.g. Certificates of Approval) which may apply to industrial facilities.

Approving authorities such as municipalities must accept responsibility for complaints and investigations where decisions are made and/or land use approvals are granted in contravention of this guideline.

Nothing in this guideline is intended to alter or modify the definition of "adverse effect" in the *Environmental Protection Act*.

## 1.0 INTRODUCTION

### 1.1 Objective

The objective of this guideline is to prevent or minimize the encroachment of sensitive land use upon industrial land use and vice versa, as these two types of land uses are normally incompatible, due to possible adverse effects on sensitive land use created by industrial operations.

To assist planning authorities in achieving the objective, Appendix A of this guideline categorizes industrial facilities into three Classes according to the objectionable nature of their emissions, their physical size/scale, production volumes and/or the intensity and scheduling of operations. One or more of these factors may cause an adverse effect.

## 1.2 Scope

### 1.2.1 Sensitive Land Uses

For the purposes of this guideline, (i.e. where industry is concerned) sensitive land use may include:

- recreational uses which are deemed by the municipality or provincial agency to be sensitive; and/or
- any building or associated amenity area (i.e. may be indoor or outdoor space) which is not directly associated with the industrial use, where humans or the natural environment may be adversely affected by emissions generated by the operation of a nearby industrial facility. For example, the building or amenity area may be associated with residences, senior citizen homes, schools, day care facilities, hospitals, churches and other similar institutional uses, or campgrounds.

See also Section 4.4.4, "Ancillary Land Uses (Sensitive Land Use)" for more information on the types of uses, the land areas and the related activities affected by this guideline.

NOTE: Residential land use shall be considered sensitive 24 hours/day.

### 1.2.2 Industrial Land Uses

The guideline applies to all types of proposed, committed and/or existing industrial land uses which have the potential to produce point source and/or fugitive air emissions such as noise, vibration, odour, dust and others, either through normal operations, procedures, maintenance or storage activities, and/or from associated traffic/transportation.

This guideline also considers ground borne vibration, but does not deal with other emissions into the soil or ground and surface water. These other matters are addressed through the *Environmental Protection Act (EP Act)*, in particular Regulation 346 and Regulation 347, the *Ontario Water Resources Act (OWR Act)* in general, and the Municipal Industrial Strategy for Abatement (MISA).

### 1.2.3 Non-Stationary Industrial Facilities

This guideline is not intended to apply to non-stationary industrial facilities such as a portable asphalt plant.

### 1.2.4 Other Facilities

This guideline does not apply to the following provincial, municipal or private facilities, land uses or related activities, nor to any on-site industrial-type facilities associated with them, except as noted below:

- sewage treatment facilities;
- landfills or dumps, transfer stations and other waste management facilities and waste processing facilities that require a Waste Certificate of Approval (e.g. facilities for waste oil refining, waste wood chipping and materials recovery facilities [MRFs]);
- agricultural operations;
- roadways (except for ancillary transportation facilities and transportation-related activities for an industrial land use including shipping and receiving);
- airports;
- railways (but it does apply to railway yards and other ancillary rail facilities); and
- pits and quarries (However, in the absence of site specific studies, this guideline should be utilized when sensitive land use encroaches on an existing pit and/or quarry. In these situations the appropriate criteria are the potential influence area and recommended minimum separation distance for a Class III industrial facility as set out in Sections 4.1.1 and 4.3 of this guideline.).

A list of publications which deal with land use compatibility for some of these land uses is provided in Procedure D-1-2, "Land Use Compatibility: Specific Applications".

### 1.3 Land Uses Compatible with Industrial Facilities

The land uses listed in Section 1.2.4 above are normally compatible with industrial facilities.

### 1.4 Approach

The general approach in Section 3.0 of Guideline

D-1: "Land Use Compatibility" shall be followed to protect incompatible land uses from each other.

### 2.0 DEFINITIONS

NOTE: Definitions in addition to those below are provided in Procedure D-1-3, "Land Use Compatibility: Definitions".

#### Amenity Area

An outdoor space or facility that is used for the enjoyment of persons residing in or utilizing any building(s) on the premises.

**Class I Industrial Facility**

A place of business for a small scale, self contained plant or building which produces/ stores a product which is contained in a package and has low probability of fugitive emissions. Outputs are infrequent, and could be point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration. There are daytime operations only, with infrequent movement of products and/or heavy trucks and no outside storage. See Appendix A of this guideline for classification criteria and examples to categorize a specific industry.

**Class II Industrial Facility**

A place of business for medium scale processing and manufacturing with outdoor storage of wastes or materials (i.e. it has an open process) and/or there are periodic outputs of minor annoyance. There are occasional outputs of either point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration, and low probability of fugitive emissions. Shift operations are permitted and there is frequent movement of products and/or heavy trucks during daytime hours. See Appendix A of this guideline for classification criteria and examples to categorize a specific industry.

**Class III Industrial Facility**

A place of business for large scale manufacturing or processing, characterized by: large physical size, outside storage of raw and finished products, large production volumes and continuous movement of products and employees during daily shift operations. It has frequent outputs of major annoyance and there is high probability of fugitive emissions. See Appendix A of this guideline for classification criteria and examples to categorize a specific industry.

**Fugitive Emissions**

Reasonably expected/predictable contaminant occurrences associated with normal operational practices and procedures (e.g. materials handling or outdoor storage) of industrial facilities, which are generally difficult to practically control at the source or on-site. These emissions are not point sources (i.e. not from stacks or vents). Fugitive emissions are from all sources. These emissions may include odour, noise, vibration and particulate such as dust. Emissions from a breakdown are also not considered 'fugitive'. Breakdown emissions would be covered under a Certificate of Approval contingency plan, or are considered to be a 'spill'.

**Industry, Industrial Land Use or Industrial Facility**

A facility or activity relating to: the assemblage and/or storage of substances/goods/raw materials; their processing and/or manufacturing; and/or the packaging and shipping of finished products. Industrial facilities are further refined through categorization into 3 Classes in this guideline (see Appendix A of this guideline).

## **Infilling**

Development on a vacant lot or an underdeveloped lot within a built-up area; not redevelopment/re-use.

## **Redevelopment**

Where existing land uses are being phased out and replaced by another type of designated land use as part of a land use plan or proposal which has been substantiated by studies and is in accordance with a municipal official plan policy or other formally approved plan.

### **3.0 APPLICATION**

The information set out Section 2.0 of Guideline D-1, "Land Use Compatibility" shall apply for this guideline also.

### **4.0 IMPLEMENTATION**

Areas of Responsibility for Ministry Staff or the Delegated Authority, Municipalities and Other Planning Authorities and Proponents are identified in Procedure D-1-1, Sections 1, 2 and 3 respectively.

See Procedure D-1-1, "Land Use Compatibility: Implementation" also for general information on legislative and administrative tools.

#### **4.1 Influence Area Concept**

##### **4.1.1 Potential Influence Areas for Industrial Land Uses**

The Ministry has identified, through case studies and past experience, the following potential influence areas (i.e. areas within which adverse effects may be experienced) for industrial land uses (Illustrated in Appendix C):

**Class I - 70 metres\***

**Class II - 300 metres\***

**Class III - 1000 metres\***

\* See Section 4.4, "Measuring Separation Distance" also.

##### **4.1.2 Actual Influence Areas for Industrial Land Uses**

The actual influence area (overall range within which an adverse effect would be or is experienced) for a particular facility is site-specific, and may be defined within, or in exceptional circumstances (see Section 4.5.2, Separation Distance Greater than the Potential



Influence Area"), beyond the potential influence area either before, or where applicable, after buffers have been used to reduce, eliminate or otherwise intercept adverse effects.

In the absence of specific substantiating information (normally obtained through technical studies - see Section 4.6, "Studies") which identifies an actual influence area, the potential influence areas set out in Section 4.1.1 of this guideline shall be used.

#### **4.1.3 Influence Area Reduced Through Industrial Controls**

Mitigation at the industrial source, if it affects the criteria considered in Appendix A, may enable an industry to be categorized as a lesser Class (e.g. from a Class II to a Class I), thereby reducing the minimum separation distance requirements set out in Section 4.3, "Recommended Minimum Separation Distances". For example, a rendering plant can be an extremely noxious use, but an enzyme digester can make it "cleaner".

In cases where the separation distance is reduced through other buffering techniques, where feasible the Ministry recommends some site-specific notification (e.g. spot zoning or requirement for re-zoning by the municipality) to deal with future changes in use which would not normally require re-zoning.

### **4.2 Land Use Planning**

#### **4.2.1 Purpose of General**

Impacts from industrial sources relate to operating and maintenance procedures rather than general land use. Land use documents normally do not control the operation of a land use, as the operational details are not normally known when lands are designated for industrial use, and most operational aspects cannot be controlled by municipalities through the land use planning process.

As well, municipal official plans (O.P.s) give general policy direction. Official plans and associated policies have no power of enforcement. There is no allowance for 'performance' zoning. Therefore, it is difficult to calculate actual influence areas at the time the O.P. is contemplated. Uses within a given designation or zoning could have totally different influence areas.

#### **4.2.2 Determining Permitted Uses Within Industrial Land Use Designations**

Permitted uses should be based on operational aspects (e.g. plant emissions, hours of operation, traffic movement) and mitigation employed. Zoning by-laws, however, do not normally use such factors in the definition of permitted uses. Therefore, it shall be necessary to consult Appendix A of this guideline, to determine permitted uses within a general land use designation.

#### 4.2.3 Existing and Committed Industrial Land Use

When there are existing and committed industrial uses, the Ministry recommends that the category designation of "Class I", "Class II" or "Class III", according to Appendix A of this policy, be indicated in the land use plans by the approval authority.

Plan approval agencies are encouraged to delineate all potential influence areas or, where known, the actual influence areas, around existing and committed industrial land uses within their jurisdiction, to be used as a 'flag' when a change in land use is proposed within them.

This should be done on a scaled land use plan or map, and included in an easily accessible document, such as an official plan schedule.

NOTE #1: The Canadian Urban Institute is producing a guide to the creation and use of municipal historical inventories which includes a recommended approach to documenting the types and locations of industries and other potentially polluting activities.

NOTE #2: It would be advisable to include locations of former industrial facilities as well, since decommissioning and soil clean up may be required for site re-use. See Section 4.10.8, "Site Clean Up and Decommissioning" also.

#### 4.2.4 On-Site Separation Distance

There is merit in providing a required separation distance on the facility site. However, there may be a change in industrial land use that does not require a change in zoning, but which nevertheless produces a different influence area not covered off by the existing on-site buffer area.

Therefore, when separation distance is provided partially or entirely on-site, the Ministry recommends that where feasible, some site-specific notification (e.g. spot zoning or requirement for re-zoning by the municipality) is put in place to ensure future changes in use which would not normally require re-zoning will comply with this guideline. The same problem could occur when a buffer area is provided on the sensitive site.

#### 4.2.5 Off-Site Separation Distance

When the separation distance extends beyond the facility/sensitive site boundary or the industrial/ sensitive zoned or designated lands, the intervening lands may be of a use or activity compatible with both the facility and the sensitive land use.

For example, depending upon the amount of intervening space, uses could include: warehousing, various commercial uses that relate to types of industries or the neighbouring lands, open/green space, road allowance or, for Class III and Class II industrial uses, Class I industrial uses. If a lower Class of industrial use is used, there must still be adequate

separation and/or buffering as established in this guideline to avoid or eliminate adverse effects on any sensitive land uses in the vicinity.

### **4.3 Recommended Minimum Separation Distances**

No incompatible development other than that identified in Section 4.10, "Redevelopment, Infilling and Mixed Use Areas" should occur in the areas identified below and illustrated in Appendix C,

even if additional mitigation for adverse effects, as discussed in Section 4.2 of Procedure D-1-1, "Types of Buffers", is provided:

**Class I - 20 metres minimum separation distance\***

**Class II - 70 metres minimum separation distance\***

**Class III - 300 metres minimum separation distance\***

**\* See Section 4.4, "Measuring Separation Distance" also.**

These minimums are based on Ministry studies and historical complaint data. They also make allowance for the fact that conventional zoning classifications usually permit a broad range of uses with varying potential to create land use conflicts.

### **4.4 Measuring Separation Distance**

Depending upon the situation, separation distances may be measured from different points:

#### **4.4.1. General Land Use Plans**

Measurement shall be from the area(s) designated for industrial use to the area(s) designated for sensitive land use. This would apply for such matters as municipal official plans and Ministry of Natural Resources District Land Guidelines.

#### **4.4.2 Site Specific Plans**

Measurement shall normally be from the closest existing, committed or proposed property/lot line of the industrial land use to the property/lot line of the closest existing, committed or proposed sensitive land use. This approach provides for the full use and enjoyment of both the sensitive land use and the industrial properties. See Sections 4.4.3 and 4.4.4 for exceptional situations.

#### **4.4.3 Zoning/Site Plan Control (Industrial Lands)**

Where site-specific zoning or site plan control precludes the use of the setback for any activity associated with the industrial use that could create an adverse effect such as shipping and receiving or outside storage/stockpiling of materials (e.g. front yard must be landscaped,

and functions as a buffer), then the setback can be included as part of the measurement, rather than measuring from the industrial property line.

**NOTE:** This approach could restrict future expansion of existing land uses.

On-site buffers could be required by a municipality through zoning by-law setback requirements in industrial subdivisions, but this may not be practical, as the provision of very deep lots would be necessary. See Section 4.2.4, "On-Site Separation Distance" also. The use of other forms of mitigation may have to wait until a specific industry and/or sensitive land use has been identified/established.

#### **4.4.4 Ancillary Land Uses (Sensitive Land Use)**

For sensitive land uses, where the established use of on-site lands are not of a sensitive nature, such as a parking lot servicing a hospital, the land area comprising the parking lot may be included within the separation distance (i.e. measure from where the actual sensitive activities occur).

**NOTE:** This approach could restrict future expansion of existing land uses. See Section 4.2.4, "On-Site Separation Distance" also.

#### **4.4.5 Vacant Industrial Land**

Where there is no existing industrial facility within the area designated/zoned for industrial land use, determination of the potential influence area shall be based upon a hypothetical "worst case scenario" for which the zoned area is committed. Therefore, Ministry staff or the delegated authority shall use the outside range of the potential influence area to determine an appropriate separation distance. See Section 4.2.2, "Determining Permitted Uses Within Industrial Land Use Designations" also.

#### **4.4.6 Changing Industrial Uses**

Where an influence area has been established based upon existing industrial land uses, it will be the responsibility of the local municipality to restrict, through zoning or any other available means, the types of future industrial uses that can occur, so that they are compatible with the influence area used.

**NOTE:** Zoning by-laws cannot control the level of emissions produced (related to specific products) or technology used, hours of operation or traffic movements. It is difficult to correlate zoning by-laws with the industrial classifications set out in Appendix A, and therefore site-specific/spot zoning or a requirement for re-zoning by the municipality may be necessary to ensure that the establishment of new industrial uses comply with this guideline. See Section 4.2.2, "Determining Permitted Uses Within Industrial Land Use Designations" also.

## **4.5 Commenting on Land Use Proposals**

### **4.5.1 Considerations When a Change in Land Use is Proposed Within an Influence Area or Potential Influence Area**

The potential influence areas, or where known, the actual influence areas (see Section 4.1 of this guideline) should act as a 'flag', and no sensitive land uses shall be permitted within the actual or potential influence areas of Class I, II or III industrial land uses, without evidence to substantiate the absence of a problem. When studies are needed to identify problems and mitigative measures, see Section 4.6, "Studies".

When a land use proposal places sensitive land use beyond a facility's potential influence area, or where known, actual influence area, the Ministry shall not normally object to the change in land use on the basis of land use compatibility. For exceptional situations, see Section 4.5.2 "Separation Distance Greater than the Potential Influence Area".

### **4.5.2 Separation Distance Greater than the Potential Influence Area**

In exceptional circumstances the Ministry shall recommend separation distances greater than the outer limit of the potential influence areas identified in Section 4.1.1 of this guideline. In such cases, the Ministry shall demonstrate the need for greater distance, such as historical data for similar facilities. Studies (see Section 4.6) may be required even if a separation distance beyond the potential influence area is proposed.

### **4.5.3 Irreconcilable Incompatibilities**

When impacts from industrial activities cannot be mitigated or prevented to the level of a trivial impact (i.e. no adverse effects), new development, whether it be an industrial facility or a sensitive land use, shall not be permitted.

There may be situations where development or redevelopment can be phased until such time that an adverse effect would no longer exist (e.g. the facility ceases to operate or the problem is rectified by new technology).

## **4.6 Studies**

Air quality studies for noise, dust and odour should be provided by the proponent to the approving authority.

NOTE: Studies shall be provided prior to Ministry staff commenting on draft approval, to see if draft approval can be supported (in principle).

### **4.6.1 Noise**

Noise shall be addressed through Ministry Publication LU-131 for all situations applicable to this guideline.

#### **4.6.2 Dust**

Contaminant emission sources can be classified as point sources or fugitive sources. Most facilities will produce both point source and fugitive emissions, and it is difficult to allocate emissions to one or the other source.

Regulation 346 sets out standards for contaminants, including suspended particulate matter and dust fall. The document entitled "General Information: Certificates of Approval (Air)" that is referenced in Appendix B provides information on the approval requirements and procedures. Details for assessing emissions from point sources such as stacks and vents, and standards and interim standards are also provided.

Even if Regulation 346 standards are met at the property line of the industrial site, there may still be complaints from neighbouring land uses because: (a) dispersion modelling is not 100% accurate and it cannot be guaranteed that point source emissions will be controlled 100% of the time; and (b) the standards, which are based upon acceptable risk with regard to health, odour and vegetation, are based on 1/2 hour averages, and at some point within a 1/2 hour there may be a high level of emissions.

Emissions from fugitive sources such as dust from traffic and storage piles are more difficult to quantify, and a plan in itself to minimize fugitive emissions also may not be 100% effective. The Ministry is preparing an interim guideline that addresses areas such as measuring and minimizing fugitive emissions. Therefore, separation of incompatible land uses will help to minimize potential adverse effects from fugitive emissions.

#### **4.6.3 Odour**

Odorous contaminants are particularly difficult to control on-site. Although the contaminants emitted may meet the Ministry's standards and interim standards, experience indicates that complaints may still be received from residents living in proximity to the industry, for the reasons set out in Section 4.6.2. Emissions of odorous contaminants may result in off-site odour problems which could constitute an 'adverse effect'. An 'adverse effect' is a violation of Section 14 of the *Environmental Protection Act*. Stack testing under a worst case scenario, odour panel tests and odour control equipment may be required to minimize odour concerns.

#### **4.7 Mitigation**

Additional mitigation measures (see Procedure D-1-1, "Land Use Compatibility: Implementation", Section 4.2, "Types of Buffers") may need to be incorporated on either the development lands or the surrounding properties, at the expense of the developer, where the industrial facility is operating in compliance with legislated Ministry requirements.



#### **4.8 Legal Agreements**

When mitigative controls are to be installed on surrounding properties, the local municipality or other approving authority should require an agreement between the developer and the affected property owners, to ensure mitigation of adverse effects to the greatest degree possible.

The legal agreement between the developer and other affected parties to ensure adequate mitigation should be reviewed and endorsed by Ministry staff and/or the delegated authority prior to development approval.

#### **4.9 Financial Assurance**

The Ministry recommends that bonds be required by the approving authority to ensure that mitigation will be carried out.

#### **4.10 Redevelopment, Infilling & Mixed Use Areas**

It may not be possible to achieve the recommended minimum separation distances set out in Section 4.3 of this guideline in areas where infilling, urban redevelopment and/or a transition to mixed use is taking place.

The following requirements shall apply if this Ministry or a delegated authority is to consider proposals for urban redevelopment, infilling and/or a transition to mixed use within less than the Ministry's recommended separation distances set out in Section 4.3 of this guideline:

##### **4.10.1 Official Status**

Such proposals must be in accordance with official plan policy or a formal planning approval process, with the boundaries of the redevelopment, infilling or mixed use area clearly defined by the planning authority.

##### **4.10.2 Zoning**

The Ministry or delegated authority shall only consider redevelopment, infill and mixed use proposals which put industrial and sensitive land uses together within less than the recommended minimum separation distances (see Section 4.3), if the zoning is use specific (i.e. only the existing or proposed industrial or sensitive use is permitted by the municipality or other approving authority), or if planning considerations are based on the "worst case scenario" based on permitted uses in the industrial zoning by-law.

##### **4.10.3 Feasibility Analysis**

When a change in land use is proposed for either industrial or sensitive land use, less than the minimum separation distance set out in Section 4.3 may be acceptable subject to either the municipality or the proponent providing a justifying impact assessment (i.e. a use specific evaluation of the industrial processes and the potential for off-site impacts on existing and proposed sensitive land uses). Mitigation is the key to dealing with less than the minimum to the greatest extent possible.

The overall feasibility of the proposal, from a land use compatibility perspective, should be based on the anticipated adverse effects from each specific industry, and the effectiveness of proposed mitigative measures to lessen impacts on sensitive land uses within the context of planning for the area.

The Ministry or delegated authority shall require the following in order to make an assessment for allowing less than the recommended minimum separation distance:

- Detailed mapping showing the area subject to the proposed development and all industrial facilities and any other sources of adverse effects (e.g. rail lines);
- Mapping shall also indicate all vacant properties currently zoned and/or designated for industrial use along with relevant excerpts from the official plan and/or zoning by-law to indicate the full range of permitted uses. Attempts shall also be made to predict the types and levels of adverse impact that would result in a "worst case scenario" should an industrial use be developed upon any of the vacant parcels.
- Assessment of the types and levels of contaminant discharges being generated by current industrial facilities, including those associated with transportation facilities which serve the industries.
- Based upon actual and anticipated impacts, necessary mitigative measures should be identified based upon technical assessments. Noise and other technical studies shall be submitted to appropriate Ministry staff for review. See Sections 4.6 "Studies" and 4.7, "Mitigation" for more details.
- An indication shall be given as to the methods by which the mitigative measures (approved by the land use authority) will be implemented, i.e. the types of agreements that must be entered into. See Section 4.8, "Legal Agreements" also.
- Where mitigative measures are to be applied off-site to an existing industrial facility, the proponent shall demonstrate that the industrial facility has no objection to the proposed use or to the addition of the necessary mitigative measures. Implementation of approved mitigation measures shall be required as a condition of draft approval.
- Proponents should demonstrate to the approving authority that no objections to the proposed use have been raised by area residents, industries, etc. See Section 4.10.5, "Public Consultation".



#### **4.10.4 New Use of Existing Buildings**

The requirement for a feasibility analysis identified in Section 4.10.3 above shall apply as well where a new use is proposed for an existing building.

#### **4.10.5 Public Consultation**

When development is proposed at less than the recommended minimum distances identified in Section 4.3, the approving authority is encouraged to require public consultation with all land owners within the influence area or potential influence area of the industrial facility/facilities.

#### **4.10.6 Environmental Warnings for Sensitive Land Uses**

When the new development is sensitive, the Ministry recommends that a warning of anticipated nuisance effects be included in any offers of purchase and sale. A means of notifying ensuing purchasers should be determined by the local municipality. A warning may be included in a document which can be registered on title according to the Ministry of Consumer and Commercial Relations Bulletin No. 91003, "Environmental Warnings/Restrictions" (Appendix D).

#### **4.10.7 Phased/Sequential Development**

When industry is being phased out as part of a large-scale plan, consideration may be given to staging redevelopment and/or infilling to coincide with the closure of those industries which create a significant impact on the proposed sensitive land use(s).

#### **4.10.8 Site Clean Up & Decommissioning**

Guideline C-15 (former Ministry Policy 14-17), "Guidelines for the Clean Up of Contaminated Sites in Ontario" may apply in conjunction with re-use of industrial properties. In such instances, the approving authority should ensure that the level of clean up is appropriate for both the re-use of the site and the protection of sensitive land use receptors.

NOTE: Municipal O.P.s should establish a policy to indicate when site rehabilitation (especially for mixed use, redevelopment and infilling) is required. A policy should also require that there be a qualified individual on-site to oversee the rehabilitation. It is recommended that this requirement be incorporated in a development agreement between the developer and the municipality.

#### **4.11 Accessory Residential Uses**

Some municipalities may permit "accessory residential uses" in industrial official plan designations or zoning by-laws (i.e. the owner's residence is on the same property as the

business/industry). When the residence will no longer be occupied by the on-site business/industry owner, any re-use of the residence shall be subject to the requirements set out in Section 4.10, "Redevelopment, Infilling & Mixed Use", particularly Section 4.10.4, "New Use of Existing Buildings" and Section 4.10.8, "Site Clean Up & Decommissioning".

Where there are provisions for "accessory residential uses", it may be appropriate for municipalities to prohibit such residential uses where none exist, through an official plan amendment or a site-specific zoning-bylaw (see Section 4.10.2, "Zoning").

## **5.0 REFERENCE DOCUMENTS**

1. Guideline C-15, "Guidelines for the Clean Up of Contaminated Sites in Ontario"
2. Guideline D-1, "Land Use Compatibility"
3. Procedure D-1-1, "Land Use Compatibility: Implementation"
4. Procedure D-1-2, "Land Use Compatibility: Specific Applications"
5. Procedure D-1-3, "Land Use Compatibility: Definitions"
6. Publication LU-131, "Noise Assessment Criteria in Land Use Planning"

**PROCEDURE D-6-1**

**APPENDIX A: INDUSTRIAL CATEGORIZATION CRITERIA**

**Last Revision**

October 17, 1994

# INDUSTRIAL CATEGORIZATION CRITERIA

CATE- GORY	OUTPUTS	SCALE	PROCESS	OPERATION	POSSIBLE EXAMPLES**
<b>Class I</b>	NOISE: Sound not audible off property DUST and/or ODOUR: Infrequent and not intense VIBRATION: No ground borne vibration on plant property	-No outside storage -Small scale plant or scale is irrelevant in relation to all other criteria for this Class	-Self contained plant or building which produces/stores a packaged product. Low probability of fugitive emissions	-Daytime operations only -Infrequent movement of products and/or heavy trucks	-Electronics manuf. and repair -Furniture repair and refinishing -Beverage bottling -Auto parts supply -Packaging and crafting services -Distribution of dairy products -Laundry and linen supply
<b>Class II</b>	NOISE: Sound occasionally audible off property DUST and/or ODOUR: Frequent and occasionally intense VIBRATION: Possible ground-borne vibration, but cannot be perceived off property	-Outside storage permitted -Medium level of production allowed	-Open process -Periodic outputs of minor annoyance -Low probability of fugitive emissions	-Shift operations permitted -Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours	-Magazine printing -Paint spray booths -Metal command production -Electrical manufacturing -Manufacturing of dairy products -Dry Cleaning services -Feed packing plant
<b>Class III</b>	NOISE:sound frequently audible off property DUST and/or ODOUR: Persistent and/or intense VIBRATION:Ground-borne vibration can frequently be perceived off property	-Outside storage of raw and finished products -Large production levels	-Open process -Frequent outputs of major annoyances -High probability of fugitive emissions	-Continuous movement of products and employees -Daily shift operations permitted	-Manufacturing of paint and varnish -Organic chemicals manufacturing -Breweries -Solvent recovery plants -Soaps and detergent manuf. -Manufacturing of resins and costing -Metal manuf.

**NOTE:** Emissions may be point source or fugitive.

**\* NOTE:** This Table should not be considered a comprehensive list but is to be used to provide examples of industrial categories.

**\*\* NOTE:** The following examples are not limited to the Class indicated on the Table. The categorization of a particular industry will vary with the specifics of the case.

**SOURCE:** The criteria for categorizing industries into Class I, II or III are derived from Ministry experience and the investigation of complaints related to industrial facilities.

**PROCEDURE D-6-2**

**APPENDIX B: RELATIONSHIP BETWEEN MINISTRY  
CERTIFICATE OF APPROVAL PROCESS & THE PLANNING PROCESS**

**Last Revision**

October 17, 1994

## RELATIONSHIP BETWEEN MINISTRY CERTIFICATE OF APPROVAL PROCESS & THE PLANNING PROCESS

### 1.0 Air

The Ministry's Air Certificate of Approval (C of A) program, handled by the Approvals Branch, is a separate approval process from the planning process. The C of A is an approval under Section 9 of the *Environmental Protection Act* and "the issuance of a certificate in no way abrogates the owner's legal obligations to take all reasonable steps to avoid violating other applicable provisions of the *Environmental Protection Act* and other legislation and regulations." ("General Information: Certificates of Approval (Air)", MOE, August 1992, P.A9-1).

For details on what requires approval and what does not require approval reference should be made to:

- "General Information: Certificates of Approval (Air)" (MOE, Approvals Branch, August 1992)\*.

For details on how to apply, reference should be made to:

- "Guide for Applying Certificates of Approval: AIR (Sources of Contaminants)" (MOE, Approvals Branch, September 1992)\*.

**The Ministry of Environment & Energy requires that the industrial facility, for which the Air C of A application is being made, must comply with the area zoning by-law(s). If the proposal conflicts with area zoning by-laws, the application will be returned.**

### 2.0 Noise

The Ministry will comment from a noise perspective at the official plan amendment stage on the feasibility of industrial development proposals. In such cases, the Ministry may indicate that a Certificate of Approval for noise is required.

### 3.0 Guides for Other Ministry Approvals

The following guides regarding Ministry approvals under the *Ontario Water Resources Act* and the *Environmental Protection Act* are potentially relevant to an industrial land use:

- "Guide for Applying for Approval of Industrial Sewage Works" (MOE, Approvals Branch, September 1992)\*
- "Guide for Applying for Provisional Certificate of Approval of Waste Management Systems" (MOE, Approvals Branch, September 1992)\*

- "Guide for Applying for Approval of Municipal and Private Water and Sewage Works" (MOE, Approvals Branch, September 1992)\*
- "Guide for Applying for Waste Disposal Sites" (MOE, Approvals Branch, September 1992)\*

**\* A copy of this document can be ordered by contacting:**

Ministry of Environment and Energy  
Approvals Branch  
250 Davisville Avenue, 3rd Floor  
Toronto, Ontario  
M4S 1H2  
Telephone: (416) 440-3718

**NOTE:** Potential influence areas prescribed in Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" shall not be used to form the basis of review for applications for Certificates of Approval under the *Environmental Protection Act* where other procedures for this purpose are specified in the documents listed above.



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**MANUAL OF GUIDELINES AND  
PROCEDURES**

**PART E  
ENVIRONMENTAL ASSESSMENT**

December 31, 1994

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## **PART E - ENVIRONMENTAL ASSESSMENT (EA)**

### **Chapter Contents**

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- E-2** Pre-submission Consultation in the Environmental Assessment (EA) Process
  - E-2-1** Procedures for Pre-submission Consultation in the Environmental Assessment Process
- E-3** Environmental Assessment (EA) Planning and Approvals
  - E-3-1** Interim Procedures for Environmental Assessment Planning and Approvals
- E-4** Interim Expansion of Municipal Landfills

**GUIDELINE E-1**  
**(formerly 03-01)**

**The Role of the Review and the Review Participants in the  
Environmental Assessment (EA) Process**

**Legislative Authority:**

*Environmental Assessment Act, RSO 1990*

**Responsible Director:**

Director, Environmental Assessment Branch

**Last Revision Date:**

April, 1994

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Appended - SUMMARY OF ROLES

## SYNOPSIS

This guideline defines the roles of the environmental assessment (EA) review and the review participants in the EA process. The objectives of this guideline are to ensure:

- (a) a consistent review process;
- (b) a clear separation of the functions between the review coordinator and the reviewers;
- (c) a clear separation of Ministry roles in the EA process, (i.e., a separation of the technical/scientific roles from the administration of the EA process);
- (d) a clarification of the role of the reviewers throughout the EA process;
- (e) guidance to reviewers on the nature of the commentary required of them;
- (f) a focus in the EA process on sound EA planning and its documentation in environmental assessments; sound planning should lead to better undertakings with appropriate mitigation and monitoring measures; and
- (g) a minimal number of conditions of approval.

Under the *Environmental Assessment Act*, Section 7(1), the Minister must have a review of the EA prepared. This has been made the responsibility of the Environmental Assessment (EA) Branch.

## 1.0 Introduction

The purpose of this guideline is to define the role of the review and the review participants in the environmental assessment process. This guideline conforms with the *Environmental Assessment Act's* requirements and is intended to contribute to a high quality EA process.

## 2.0 Definitions

### Review Co-ordinator:

The environmental planner from the Environmental Assessment Branch who co-ordinates the review

### Reviewers:

All other contributors to the review, including Ministry staff responsible for technical input based on the Ministry's mandate of environmental protection

### Review Participants:

The review co-ordinator and the reviewers constitute the review participants

## 3.0 Guideline Considerations

### 3.1 Objectives

This guideline aims to provide:

- (a) a consistent review process;
- (b) a clear separation of the functions between the review co-ordinator and the reviewers;
- (c) a clear separation of Ministry roles in the EA process, (i.e., a separation of the technical/scientific roles from the administration of the EA process);
- (d) a clarification of the role of the reviewers throughout the EA process;
- (e) guidance to reviewers on the nature of commentary required of them;
- (f) a focus in the EA process on sound EA planning and its documentation in environmental assessments (sound planning should lead to better undertakings with appropriate mitigation and monitoring measures); and
- (g) a minimal number of conditions on approval.

### 3.2 The Role of the Review

Under Section 7(1) of the *EA Act*, the Minister must have a review of the EA prepared and this has been made the responsibility of the EA Branch.

The role of the review is to:

- (a) provide, in a single document, an evaluation of the strengths and weaknesses of the proponent's planning process and undertaking, as described in the EA, based on comments provided by provincial Ministries, agencies and others. The evaluation of the planning process is based on the requirements of the *EA Act* Section 5(3) and Ministry guidelines for sound EA planning which interpret those requirements. The review of the undertaking is based on the effects of the undertaking and its alternatives on the mandate and interests of the Government Review Team;
- (b) identify any outstanding environmental issues;
- (c) provide information to the Minister (or a board if a hearing is required) on the EA and the undertaking;
- (d) advise the Minister (or a board) on how to improve the EA by pointing out what changes and/or research are required to obtain a satisfactory EA document;
- (e) assist the public in evaluating the EA and provide information to parties interested in making a submission on the EA to the Minister; and
- (f) help proponents identify information gaps and conflicts and provide advice on how to proceed in the EA process.

### 3.2.1 Contributors to the Review

The EA Branch, provincial Ministries and agencies are the main contributors to the review. However, agencies such as conservation authorities, local boards of health, Ontario Hydro, Environment Canada and others may also contribute.

### 3.2.2 Input to Minister's Decisions

Unless a hearing is held, the Minister has two decisions to make under the *EA Act*:

- (a) Is the EA an acceptable document upon which to make a decision on whether the undertaking should be improved?
- (b) Should the undertaking be approved?

The review is a direct input to the Minister's decision on the acceptability of the EA (*EA Act*, Section 8). However, the review does not directly address the question of approval of the undertaking (*EA Act*, Section 14).

The review is prepared at a time in the EA process when the Minister does not have the benefit of public feedback on the review. This will come after the EA and the review are provided to the public. The review does not contain recommendations on the acceptability of the EA or the approval of the undertaking. Rather, the review focuses on the proponents' planning as set out in the EA and, when necessary, on how to improve the EA.

## 3.3 The Role of the Review Co-ordinator and the EA Branch

The EA Branch is responsible for the administration of the EA process across the Ontario Government and performs the role of facilitator to resolve conflicts among parties, where possible. The Branch, contributes to, and co-ordinates the preparation of the review of each EA. As well, it provides advice on the requirements of the *EA Act*.

### 3.3.1 Pre-Submission Consultation (PSC)

The roles and responsibilities of the review co-ordinator during PSC are described in detail in Ministry Guideline E-2, entitled: "Pre-Submission Consultation in the Environmental Assessment (EA) Process". During PSC, the review co-ordinator advises proponents on their planning so it will meet the spirit and requirements of the *Act*, as well as on the extent to which these requirements (especially Section 5(3)) have been met as the process proceeds. The review co-ordinator's comments will be consistent with those given in PSC, unless sound reasons can be given for the change.

### 3.3.2 Preparation of the Review

The EA Branch planner designated as the review co-ordinator obtains the written comments from the numerous government agencies on an EA and a proposed undertaking and prepare a government review by:

- (a) setting deadlines for receipt of reviewers' comments and a schedule for the process up to issuance of the Notice of Completion of the review;
- (b) determining the need to retain outside experts to assist in the review;
- (c) obtaining and highlighting comments from reviewers, which may include requirements for additional information, to make the EA under review satisfactory and suggestions for improvements to future EAs;
- (d) ensuring reviewers' comments are complete, logical, understandable and substantiated;
- (e) facilitating consultation with the proponent and the concerned reviewer(s) to resolve outstanding issues, where possible;
- (f) evaluating the planning process described in the EA to determine if it meets the requirements of Section 5(3) of the *EA Act*; this includes determining if the EA contains the proper scope, method of analysis and range of alternatives, and conforms to Ministry guidelines for sound EA planning;
- (g) writing the review to present the positions of the members of the review team and setting out the conclusions on the compliance of the proponent's planning process with the *EA Act*, Section 5(3); complete comments received from all reviewers are reproduced in the appendices of the review; and
- (h) arranging for the preparation, signing and posting of the appropriate notices in accordance with the specifics of each situation.

During the review period, reviewers' comments are made available for inspection in the EA Branch files as they are received.

### 3.3.3 Acceptability of the EA

After the public review period, the review co-ordinator will prepare the documentation for the Ministry to advise the Minister on the acceptability of the EA. The Branch will outline the major issues and options related to these matters, including the need for amendments to the EA or further research, and will advise on appropriate courses of action. The documentation will be prepared taking into account all submissions which have been received by the Minister.



### 3.3.4 Research

The review co-ordinator will prepare advice to permit the Ministry to advise the Minister if research is warranted to address problems with the EA, both before and after the Notice of Completion. It is preferable for a proponent to volunteer to carry out the required research and submit it as an amendment to the EA rather than for the Minister to order that the research be done.

Should the Minister order the proponent to carry out research before the Notice of Completion is issued, then the research can be considered by the reviewers together with the EA. The review would then be prepared based on reviewers' comments and input from the review co-ordinator.

If, after the Notice of Completion, the Minister orders further research, the research documentation will be circulated to the appropriate reviewers for their evaluation.

A supplementary review will then be prepared by the review co-ordinator from the EA Branch. The review co-ordinator will provide copies of research reports to everyone who made submissions to the Minister after the Notice of Completion.

Once the supplementary review is published, the Minister may either decide on the acceptability of the EA, or issue a notice that the review has been revised and allow time for further comment on the supplementary review, before deciding on the acceptability of the EA. The need for this notice will depend on the research received and on the content of the supplementary review.

### 3.3.5 Comment on Approval

The review co-ordinator will prepare advice to permit the Ministry to advise the Minister on the approval of the undertaking and any conditions which are necessary for that approval. Conditions of approval are generally used to address any deficiencies in the EA or concerns with the undertaking or both. The number of conditions will be minimized wherever possible by amending the EA before the Notice of Completion.

### 3.3.6 Hearings

When hearings on EA matters are held by either the Environmental Assessment Board or a joint board under the *Consolidated Hearings Act*, the review co-ordinator and other EA Branch staff may be called upon to provide:

- (a) an interpretation of the *EA Act*;
- (b) explanations of the role of the review and the review participants in the EA process;

- (c) an opinion on whether or not the EA complies with Section 5(3) of the *EA Act*; and
- (d) an explanation of how the review was carried out and how the review co-ordinator came to the conclusions in the review.

The review co-ordinator may also assist legal counsel representing the Minister during the hearings.

### **3.4 The Role of the Reviewers**

Reviewers, including those from the Ministry, are responsible for providing technical/scientific information to proponents throughout the EA process based on their mandates. This includes commentary on the quality and completeness of the components in an EA. In addition, reviewers provide advice to proponents on how well the undertaking addresses the policy interests of their respective agency.

Reviewers are normally expected to focus their requirements for additional information on significant matters, while making suggestions on improvements to future EAs for the proponent to consider.

#### **3.4.1 Pre-Submission Consultation (PSC)**

The roles and responsibilities of reviewers during Pre-Submission Consultation (PSC) are described in detail in the Ministry's Guideline E-2: "Pre-Submission Consultation in the Environmental Assessment (EA) Process".

During PSC, reviewers provide advice to the proponents on the type of information required in the EA, the level of detail appropriate for that information, the range of alternatives the proponents should investigate, and the weight the policy interests of the reviewer's agency should be given in selecting the undertaking.

The Ministry encourages agencies reviewing EAs to produce guidelines which outline their requirements for EAs. Such guidelines assist both proponents and the public in understanding agency expectations and thereby reduce some of the uncertainty.

Any pertinent information that reviewers have should be made available to the proponent.

#### **3.4.2 Preparation of the Review**

Reviewers provide an evaluation of the EA based on their mandate, and advise on any reasonable changes and/or research needed to obtain a satisfactory EA document. Their position during the review should be consistent with that taken during PSC, unless sound reasons are provided for the change.

When they identify significant weaknesses, reviewers should indicate what changes are required and/or what research a proponent should undertake to obtain a satisfactory EA

document. They should also advise the proponent on possible data sources to address the concerns.

To contribute to the review of an EA, each reviewer is asked to carry out an evaluation by responding to a number of standard questions which are supplied by the review co-ordinator. The questions are designed to obtain advice from reviewers on the quality of the environmental assessment and, if necessary, how to improve it. All the questions should be answered. Reviewers are also asked to provide a summary statement of their position on the EA and the undertaking.

Reviewers are requested to indicate the significance of any strengths or weaknesses they have identified. If the weaknesses are significant, they should indicate what changes and/or additional research proponents should undertake to obtain a satisfactory EA document.

In preparing their overall evaluation, reviewers are requested to:

- (a) provide detailed reasons for their conclusions;
- (b) give adequate consideration to all alternatives, not just the recommended one(s); and
- (c) take into account any changes to the pre-submission consultation position and the associated reasons.

Reviewers are advised that the standard questions are not meant to restrict the scope of the review. They are asked to provide any additional comments from the perspective of their mandate which they feel are important to the evaluation.

If reviewers have questions or suggestions on aspects of the EA outside their mandate, they are asked to bring them to the attention of the proponents or the agency with the appropriate mandate as soon as they become known. These questions or suggestions are encouraged as they promote dialogue among members of the review team and can enhance the quality of the review.

After formally submitting their agency's comments, reviewers should be available to assist the review co-ordinator to ensure that the co-ordinator has captured the important points of the official position in the text of the review.

### **3.4.3 Acceptability of the EA**

Each review agency may make a submission to the Minister on the acceptability of the EA and the requirement for a hearing. Reviewers (on behalf of their agency) can make a submission to the Minister on the acceptability of the EA prior to the Notice of Completion or during the minimum 30-day public review period.

All submissions to the Minister are placed on the Public Record. To require a hearing during the minimum 15-day period for submissions on the approval of the undertaking, a review agency must already have made a submission to the Minister during the notice period provided after the Notice of Completion.

#### **3.4.4 Research**

If, prior to the Notice of Completion of the review the Minister orders the proponent to carry out research, relevant reviewers will be requested by the review co-ordinator to comment on any research documentation which the Minister obtains. These comments will contribute to the review which the EA Branch will prepare for publication. If research is conducted after the publication of the review, then the reviewers' comments will contribute to a supplementary review which will also be prepared by the EA Branch.

Reviewers are encouraged to assist the proponent in addressing outstanding issues, wherever appropriate.

#### **3.4.5 Comment on Approval**

Each reviewer can make submission to the Minister on the approval of the undertaking and on any conditions which the reviewer feels are required on that approval prior to the Notice of Completion and/or during the formal submission period prior to the Notice of Approval. All submissions to the Minister will be placed in the Public Record.

#### **3.4.6 Hearings**

For hearings on EA matters, all reviewers are responsible for preparing and presenting their agency's concerns as they deem appropriate. The decision on whether to participate in a hearing will usually be based upon:

- (a) the importance of expressing the interests of the agency; and
- (b) the types of issues to be dealt with.

## **SUMMARY OF ROLES**

### **Role of Review Co-ordinator EA Branch**

#### **Pre-Submission Consultation**

Follow "Pre-Submission Consultation in the EA Process". Discuss with the proponent the components of the EA.

Advise proponent as to possible existing data source(s).

#### **Formal Review Period**

Set deadlines for reviewers' comments and the completion of the review.

Determine the contributors to the review in consultation with the reviewers.

Keep proponent and review team informed periodically on the progress of the review and assist in resolving issues raised.

Co-ordinate and prepare the review.

Evaluate the EA to determine if the planning process described in the EA is consistent with the requirements of Section 5(3) of the *EA Act*.

Provide advice on how to improve the EA, if deficient.

Work with reviewers to ensure that their comments are accurately reflected in the review, are logical, understandable, substantiated, and respond to all questions which should be addressed by the review.

Obtain and highlight reviewers' comments.

Conclude on compliance with Section 5(3).

#### **Post-Review Period**

In consultation with Legal Services Branch advise the Minister on the type of notices required.

Advise the Minister on the acceptability of the EA.

Co-ordinate and contribute to a revised review, if one is necessary.

Advise the Minister on the approval of the undertaking.

**Hearing**

Prepare and present evidence which addresses the interpretation of the *EA Act*; the role of the review, participants in the EA process; whether or not the EA has complied with Section 5(3) of the *EA Act*, and how the EA should be improved, if significant deficiencies are found.

## **Role of Reviewers**

### **Pre-Submission Consultation**

Advise the proponent based on the reviewers' Ministry's/agency's guidelines on how to prepare EAs.

Advise the proponent about the Ministry's/ agency's existing data.

Discuss with the proponent the technical quality and completeness of the EA and the policy interests of the reviewer.

Provide copies of any written comments made in PSC to EA Advisor for EA Branch files.

### **Formal Review Period**

Meet deadlines set by the review co-ordinator for reviewers' comments.

If an extension of time is required, advise the review co-ordinator and state reasons.

Contribute to the review by:

- evaluating the EA to determine if the technical quality and completeness of the components of the EA are satisfactory;
- providing advice on how well the EA addresses the policy interests of the reviewer's agency, as appropriate;
- providing advice on how the EA should be improved, if significant deficiencies are found, by pointing out what changes and/or research should be carried out to obtain a satisfactory EA; and
- preparing a summary statement of their position on the EA and the undertaking.

Ensure that their comments are accurately reflected in the review; are logical, understandable, and substantiated; and deal with all the areas which should be addressed by the reviewer.

### **Post-Review Period**

Make submission to the Minister of Environment and Energy, in special circumstances, on the acceptability of the EA, the approval of the undertaking, (including any conditions of approval) and the requirement for a hearing.

### **Hearing**

Prepare and present the Ministry's/agency's views as required.



**GUIDELINE E-2**  
**(formerly 03-03)**

**Pre-Submission Consultation in the Environmental Assessment  
(EA) Process**

**Legislative Authority:**

*Environmental Assessment Act, RSO 1990*

**Responsible Director:**

Director, Environmental Assessment Branch

**Last Revision Date:**

April. 1994

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## SYNOPSIS

This guideline is designed to ensure that proponents consult with affected parties, prior to formally submitting an environmental assessment (EA) to the Ministry for review.

Pre-Submission Consultation (PSC) is an integral part of the EA planning process and begins at the earliest possible stages in the development of a project.

There are no legislative requirements for PSC. However, the Ministry actively encourages its use in the case of all projects involving the preparation of environmental assessments.

### 1.0 Introduction

Pre-Submission Consultation (PSC) is an integral part of the environmental assessment (EA) planning process and begins at the earliest possible stages in the development of a project.

In this context, consultation means:

- (a) identifying affected parties;
- (b) providing them with information as required;
- (c) presenting and explaining proposed planning activities and decisions to them;
- (d) seeking their comments; and
- (e) making any necessary modifications to accommodate their concerns before proceeding.

Before incorporating PSC into a planning process, a proponent should review E-2-1: "Procedures for Pre-Submission Consultation in the Environmental Assessment Process" which describes consultation principles and techniques consistent with PSC guidelines.

All parties are responsible for participating in PSC in an open, forthright and co-operative manner and for providing the information required for meaningful consultation to take place. The proponent, as initiator, has the prime responsibility for establishing a cooperative atmosphere by respecting the needs of affected parties to be adequately informed, to question and to be listened to. Affected parties have the responsibility to share in a co-operative search for the best solution.

The Ministry maintains files on projects in PSC at the EA Branch office in Toronto and these are available for review upon request. The EA Branch files contain all information received by the Branch from any participant in PSC. Certain information may also be reviewed at the local District or Regional Office of the Ministry.

## **2.0 Definitions**

### **The Proponent:**

The organization responsible for the planning and implementation of the undertaking

### **Affected Parties:**

Any members of the public or public interest groups with an interest in the undertaking as well as government reviewers and the EA Advisor

### **The EA Advisor:**

Normally, the Environmental Planner from the EA Branch who advises proponents and affected parties on PSC and *EA Act* requirements

## **3.0 Guideline Considerations**

### **3.1 Objectives**

- (a) To assist proponents in carrying out planning and in documenting that planning to meet *EA Act* requirements.
- (b) To assist proponents in designing appropriate methodologies for assessing environmental impacts.
- (c) To identify approvals, licences, and permits required.
- (d) To identify alternatives for the proponent to consider.
- (e) To improve the understanding of environmental concerns before the undertaking is selected.
- (f) To address factual questions.
- (g) To direct proponents to further sources of expertise and information.
- (h) To encourage proponents to identify and resolve issues, to the extent possible, before an EA is formally submitted.
- (i) To focus the proponent's planning on matters of concern.
- (j) To reduce the time involved in the formal approvals process.
- (k) To promote mutually-acceptable, environmentally-sound solutions by developing positive relationships among those involved in consultation.

- (l) To allow proponents to test the undertaking and the planning process before seeking approval.

### **3.2 Proponent's Responsibilities**

The proponent is responsible for initiating and carrying out PSC in a manner which fosters co-operation. The proponent proposes the design and implementation of the study process and content of the EA. Any affected party can challenge these proposals.

The proponent documents the concerns raised by affected parties, including the EA Advisor, and explains how these concerns have been addressed in planning. This information constitutes part of the EA submission to the Minister.

#### **3.2.1 Involving Parties in PSC**

The proponent is responsible for ensuring that PSC is open to all potentially affected government agencies and to all other organizations, groups, or individuals who may be affected or interested. The proponent makes every reasonable effort at the outset of the study and at key stages throughout the planning to inform potential parties of the nature of the study, and of how they may participate in the process.

Thereafter, the proponent can focus on those parties who have indicated an interest or concern. However, the proponent ensures that new parties can become involved at later stages in the study when additional matters or more detailed sources of information are being considered.

#### **3.2.2 Sharing of Information**

The proponent is responsible for responding to information requests in an open, forthright and helpful manner and for providing affected parties and the EA Advisor with adequate time to review material.

The proponent ensures that parties can become aware of perspectives other than their own. This sharing of views may lead to changes in the proponent's plans or in the views of the parties.

#### **3.2.3 Identifying Key Issues**

The proponent focuses on identifying the significant environmental issues and deal with them in more detail than the issues with less environmental significance. However, to ensure that the significant issues are identified, the proponent does not narrow the focus prematurely.

#### **3.2.4 Early Notification and Involvement**

The proponent commences PSC at the early stages of planning, before decisions have been made on which alternatives will be evaluated and on how the evaluation will be

carried out. PSC starts when the proponent has a reasonable idea of a problem or opportunity requiring attention, and long before making irreversible decisions or commitments of resources for a particular solution.

The proponent seeks input on the:

- (a) proposed sequence of decision stages;
- (b) adequacy of the data base;
- (c) the alternatives to evaluate;
- (d) methods for assessing the alternatives, including design of impact prediction studies;
- (e) predicted environmental effects;
- (f) proposed mitigation measures;
- (g) evaluation of alternatives and proposed decisions;
- (h) undertaking and its purpose;
- (i) reports which document the above.

### **3.2.5 Flexibility**

The proponent keeps sufficient flexibility in planning to reconsider previous decisions, and does not narrow the focus prematurely. Planning methods shall be selected that keep as many alternatives open, as long as possible, so that if an alternative which was selected previously proves unacceptable, the proponent can study others.

### **3.2.6 Conflict Resolution**

PSC resolves those issues amenable to resolution and highlights the important differences that remain to be resolved. The approvals process can then focus on these unresolved concerns.

### **3.2.7 EA Documentation**

The proponent in the EA summarizes the PSC process in a manner which can be understood by the non-specialist, describing who participated, the issues resolved and how, and the issues that remain unresolved.

### **3.2.8 Draft EA**

The proponent circulates a draft EA to affected parties and the EA Advisor to identify and resolve, to the extent possible, all concerns.

The proponent may circulate subsequent improved versions of the draft EA until satisfied that issue resolution in PSC has been completed. The EA documentation is finalized based on this review and formally submitted to the Minister.

## **3.3 Responsibilities of Affected Parties**

All affected parties are responsible for:

- (a) providing timely comments in an open, forthright, and helpful manner,
- (b) considering the views of others, and
- (c) fostering co-operation.

Comments made during the formal approvals process should be consistent with those given earlier in PSC, unless sound reasons exist for the change of position. Such comments identify significant environmental concerns, explain their importance, and suggest measures to address concerns.

Continuity in the participation of affected parties allows the proponents and those involved in the approvals process to be fully aware of any positions taken at PSC.

Based on their mandates, Ontario government ministries and agencies provide comments to the proponent during PSC on the merits of the proposed undertaking, its purpose, and its alternatives. In particular, they comment on:

- (a) the adequacy of the description of the environment affected;
- (b) any alternatives neglected;
- (c) the predictions of environmental effects and the mitigation measures proposed; and
- (d) the evaluation of the alternatives.

At the request of the proponents, government ministries and agencies provide comments on the extent to which draft EA documentation addresses their mandate concerns.

Copies of any written comments made in PSC should be provided to the EA Advisor. These comments will be placed in the EA Branch files, available to any affected party upon request.

### **3.4. Responsibilities of the EA Advisor**

When the proponents advise the Ministry of a project that may result in an EA, an EA Advisor, normally from the EA Branch, is designated as the proponent's contact person. The same EA Advisor usually becomes the review co-ordinator of the formal EA submission.

The EA Advisor:

- (a) advises the proponent on how to carry out an EA planning process which meets *EA Act* requirements;
- (b) helps the proponent identify the government ministries and agencies, organizations, and individuals that should have an opportunity to participate in PSC;
- (c) assists proponents and affected parties in understanding the requirements of the *EA Act* and PSC;

- (d) acts as a facilitator during PSC at the request of affected parties or the proponent; (the Advisor plays this role only with the consent of all those involved and only where such involvement is not likely to compromise the Advisor's role in the formal approvals process);
- (e) provides comments to the proponents in an open, forthright, helpful, and timely manner (comments during the formal approvals process are consistent with those given in PSC, unless sound reasons can be given for the change of position); and
- (f) comments at the request of the proponents, on the extent to which draft documentation of the planning process is consistent with the requirements of Section 5(3) of the *EA Act* (the Advisor also provides advice on how to improve the planning and the EA documentation if deficiencies are found).



**PROCEDURE E-2-1**  
**(formerly referenced by 03-03)**

**Procedures for Pre-Submission Consultation**  
**in**  
**the Environmental Assessment Process**

## PROCEDURES FOR PRE-SUBMISSION CONSULTATION IN THE EA PROCESS

### Introduction

Pre-Submission Consultation (PSC) is the process of consulting with affected parties before the EA is formally submitted. In this context, consultation means to identify affected parties, to provide them with information as needed, to present and explain proposed planning activities and decisions to them, to seek their comments, and to modify, as necessary, to accommodate their concerns before proceeding. It is essential to carrying out good planning required by the *Environmental Assessment Act*.

These Procedures discuss the Ministry's policy of Pre-Submission Consultation in the EA process, describing methods for making the consultation effective. They are intended to be used by a proponent in planning an environmental assessment (EA). They will also be useful to the public, Government ministries and agencies, and other affected parties, who want to participate in the proponent's planning.

### PART I - PURPOSE AND PRINCIPLES

Pre-Submission Consultation has developed in Ontario as a vital part of the environmental assessment process. Proponents and affected parties alike have found it in their interest to participate in consultation during the planning of an undertaking. Prior consultation can allay the opposition often provoked by the simple presentation of final decisions. Moreover, effective consultation improves the end product itself, which comes to reflect the collective knowledge, experience, values, and judgement of the proponent and affected parties together. PSC may also lead to a quicker approvals process.

#### Purpose

Pre-Submission Consultation should identify, inform, and involve all parties that may be affected by a study to address a particular problem or opportunity. The PSC process establishes positive, cooperative relations among all participants, develops workable compromises, and can lead to an undertaking which is generally agreed on and environmentally sound.

Pre-Submission Consultation brings a range of benefits:

#### For the Proponent:

- helps in meeting EA requirements for planning and documentation;
- identifies permits, licences, and approvals required;

- identifies alternatives to consider;
- directs the proponent to further sources of expertise and information;
- encourages the proponent to identify and resolve issues to the extent possible before an EA is formally submitted;
- focuses planning on issues of concern;
- improves credibility with the public and minimizes opposition;
- helps to design appropriate methods for assessing environmental impacts;
- may reduce overall time required for a decision on an EA approval through earlier identification and resolution of issues with affected parties.

**For Affected Parties:**

- promotes undertakings which address the concerns of affected parties;
- provides a means of identifying and resolving issues to the extent possible between the proponent and the affected parties before the undertaking is chosen and approval is sought;
- increases public awareness of a problem and of alternative solutions to it that may affect them;
- provides an opportunity for the undertaking to be more acceptable to affected parties by allowing public concerns to influence decisions.

**For the Provincial Environment:**

- promotes good planning by fostering an effective investigation of alternatives before the undertaking is chosen;
- ensures that planning identifies all areas of the environment potentially of concern and incorporates all appropriate mitigation measures;
- improves the range and quality of information available on which decisions are based;
- increases the efficiency of the approvals process;
- encourages more informed, environmentally sound decisions.

## PRINCIPLES

It is the proponent's responsibility to adopt a planning process that allows and encourages the effective involvement of affected parties. Such a planning process should observe the following rules:

1. **Pre-Submission Consultation means that affected Parties help plan the Undertaking.** Consultation is not a separate procedure conducted parallel or subsequent to a planning process. Instead the planning process is constructed around the involvement and contributions of affected parties.
2. **Planning occurs through a Phased Sequence of Decisions.** Consultation occurs before final decisions are made and in a manner that allows affected parties to contribute intelligently to the decisions required. Often several phases of decisions are developed to narrow a set of alternatives through progressively more detailed steps until an undertaking is selected.
3. **Consultation begins with the Earliest Planning Stages.** Affected parties are consulted long before any irreversible decisions are made. Early decisions are often among the most controversial and significant and therefore particularly deserve consultation. For example, the proposed sequence of decision phases, showing the consultation schedule is an important topic for consultation.
4. **Documentary Support for Consultation is required.** Information required for meaningful consultation is made available and accessible to affected parties. Planning and research documents are made intelligible to the non-specialist, and ample opportunity for review is provided in the planning schedule. Study team members are available to inform, listen, and respond to affected parties.
5. **Consultation is Systematic and Flexible.** Consultation opportunities and events are scheduled and appropriately advertised so that affected parties understand their significance and are encouraged to participate. Yet consultation planning should also be sensitive to changing conditions, new information, or shifts in public opinion and therefore subject to review.
6. **The Role of Consultation in Planning Decisions is Visible.** Consultation must be documented. Procedures are required for recording comments and concerns, summarizing views on issues, and describing how the proponent's planning was affected by the information received.
7. **Consultation is based on Mutual Respect of Participants.** The proponent, as initiator, has the responsibility of establishing a cooperative atmosphere by respecting the needs of affected parties to be adequately informed, to question, and to be listened to. Affected parties in turn have the responsibility to share in a cooperative search for the best solution.

## **PART II - RESPONSIBILITIES OF PSC PARTICIPANTS**

*The following is taken from the Ministry's PSC guideline. It outlines the roles and responsibilities of the participants in PSC. For further information, please refer to the PSC guideline.*

### **PROPOSER'S RESPONSIBILITIES**

The proposer is responsible for initiating and carrying out PSC in a manner which fosters cooperation. The proposer proposes the design and implementation of the study process and content of the EA. Anyone can challenge these proposals.

The proposer documents the concerns raised by affected parties including the EA Advisor and explains how these concerns have been addressed in planning. This information constitutes part of the EA Submission to the Minister.

### **Involving Parties in PSC**

The proposer is responsible for ensuring that PSC is open to all potentially affected government agencies and to all other organizations, groups, or individuals who may be affected or concerned. The proposer makes every reasonable effort at the outset of the study and at key stages throughout planning to inform potential parties of the nature of the study, and of how they may participate in the process.

Thereafter, the proposer can focus on those parties who have indicated an interest or concern. However, the proposer ensures that new parties can become involved at later stages in the study when additional matters or more detailed sources of information are being considered.

### **Sharing of Information**

The proposer is responsible for responding to information requests in an open, forthright, and helpful manner and for providing affected parties and the EA Advisor with adequate time to review materials.

The proposer ensures that parties can become aware of perspectives other than their own. This sharing of views may lead to changes in the proposer's plans or the views of the parties.

### **Identifying Key Issues**

The proposer focuses on identifying the significant environmental issues and deals with them in more detail than the issues with less environmental significance. However, to ensure that the significant issues are identified, the proposer does not narrow the focus prematurely.

### **Early Notification and Involvement**

The proponent commences PSC at the early stages of planning. This is before decisions have been made on which alternatives will be identified and evaluated and on how the evaluation will be carried out. PSC starts when the proponent has a reasonable idea of a problem or opportunity requiring attention and long before making irreversible decisions or commitments of resources for a particular solution.

The proponent seeks input on the:

- (i) proposed sequence of decision stages;
- (ii) adequacy of the data base;
- (iii) alternatives to evaluate;
- (iv) methods for assessing the alternatives;
- (v) predicted environmental effects;
- (vi) proposed mitigation measures;
- (vii) the evaluation of alternatives and proposed decisions;
- (viii) the undertaking and its purpose; and
- (ix) reports which document the above.

### **Flexibility**

The proponent keeps sufficient flexibility in planning to reconsider decisions and does not narrow the focus prematurely. Planning methods are selected that keep as many alternatives open as long as possible, so that if a previously selected alternative proves unacceptable the proponent can study others.

### **Conflict Resolution**

PSC, when it does not remove all conflicts, resolves those issues amenable to resolution and highlights the important differences that remain to be resolved. The approvals process can then focus on these unresolved concerns.

### **EA Documentation**

The proponent in the EA summarizes the PSC process in a manner which can be understood by the non-specialist, describing who participated, the issues resolved and how, and the issues that remain unresolved.

### **Draft EA**

The proponent circulates a draft EA to affected parties and the EA Advisor to identify and resolve, to the extent possible, all concerns.

The proponent may circulate successive improved versions of the draft EA until it is satisfied that issue resolution in PSC is complete. The EA documentation is finalized based on this review and formally submitted to the Minister.

## RESPONSIBILITIES OF AFFECTED PARTIES

All affected parties are responsible for providing timely comments in an open, forthright, and helpful manner, for considering the views of others, and for fostering cooperation.

Comments made during the formal approvals process should be consistent with those given earlier in PSC, unless sound reasons exist for the change in position. Such comments identify significant environmental concerns, explain their significance, and suggest measures to address the concerns.

Continuity in the participation of affected parties allows the proponent and those involved in the approvals process to be fully aware of any positions taken at PSC.

Based on their mandates, Ontario government ministries and agencies provide comments to the proponent during PSC on the merits of the proposed undertaking, its purpose, and its alternatives. In particular, they comment on the adequacy of the description of the environment affected, any alternatives neglected, the predictions of environmental effects, the mitigation measures proposed, and the evaluation of the alternatives.

Government ministries and agencies provide comments on the extent to which draft EA documentation addresses their mandate concerns, if draft documentation is circulated by the proponent.

## RESPONSIBILITIES OF THE EA ADVISOR

When the proponent advises the Ministry of Environment and Energy of a study that may result in an EA, an EA Advisor normally from the EA Branch, is designated as the proponent's Branch contact person. The same EA Advisor usually becomes the Review Coordinator of the formal EA submission.

The EA Advisor:

- Advises the proponent on how to carry out an EA planning process which meets *EA Act* requirements.
- Helps the proponent identify the Government ministries and agencies, organizations, and individuals that should have an opportunity to participate in PSC.
- Assists proponents and affected parties in understanding the requirements of the *EA Act* and PSC.
- Acts as a facilitator during PSC at the request of the affected parties or the proponent. The Advisor plays this role only with the consent of all those involved and only where such involvement is not likely to compromise the Advisor's role in the formal approvals process.



- Provides comments to the proponent in an open, forthright, helpful and timely manner. Comments during the formal approvals process are consistent with those given in PSC unless sound reasons can be given for the change of position.
- At the request of the proponent, comments on the extent to which the draft documentation of the planning process is consistent with the requirements of Section 5(3) of the *EA Act*. The Advisor also provides advice on how to improve the planning and the EA documentation if deficiencies are found.

Files on projects in Pre-Submission Consultation are maintained at the EA Branch offices in Toronto and are available for any affected party to review upon request. The EA Branch files contain all information received by the Branch from any participant in PSC. Certain information may also be reviewed at the local District or Regional Office of the Ministry.

### **PART III - INCORPORATING CONSULTATION IN PLANNING**

#### **PLANNING FOR CONSULTATION**

The steps in Pre-Submission Consultation reflect the phases of the planning process for an undertaking. Consultation should take place at each stage and the comments should be integrated into planning before decisions leading to the next stage are made.

The consultation program for an undertaking first appears as part of the proposed decision sequence when the proponent announces the commencement of work leading to the preparation of an EA. The decision sequence should reflect the main environmental issues of concern for affected parties.

The announcement should focus on information the public and other affected parties require at this early point in the EA process. Such information includes the purpose for the planning and the opportunities for input in decision-making. An overview of the EA process would also be useful at this time. The initial announcement should be followed immediately by subsequent consultation activities to establish an effective dialogue.

A draft consultation plan should itemize all potential affected parties (including interest groups, individuals, and relevant ministries and agencies) and should select the most appropriate consultation methods for contact. It should outline for discussion a work program or schedule of events for consultation throughout the entire planning process. This preliminary program, when reviewed and revised through consultation, should be updated as planning proceeds.

#### **The proponent should contact the following parties:**

- affected government ministries and agencies;



- individuals or groups with a record of involvement in similar projects, both in the study area and elsewhere;
- parties requiring notification under the *Environmental Assessment Act*;
- parties likely to be directly or indirectly affected by the alternatives;
- known experts in aspects of the study; and
- property owners on or adjacent to the sites once potential sites for an alternative are known.

## PROGRAM COORDINATION

Experienced consultation coordinators have proven to be valuable in the planning and implementation of consultation. They can suggest appropriate methods, assist in the early identification of affected parties, and facilitate conflict resolution. A coordinator can also be instrumental in bringing issues and concerns to the proponent in an organized way.

The proponent may wish to employ an individual who is familiar with local issues and concerns to coordinate part or all of the consultation. A **consultation coordinator** should be a person accepted by all participants as knowledgeable, respected, neutral, and receptive to new ideas and concerns.

## METHOD SELECTION

Before selecting methods for consultation the proponent should be able to answer a few basic questions.

Who are the participants?

- How many interests are involved?
- Are there conflicts or issues?

What resources are available?

- Time
- Trained personnel
- Level of funding.

Once answers to these questions are known, the proponent can consider various methods for implementing a program for each planning phase. In selecting the most appropriate methods it may be useful to ask:

- Is the method appropriate for the expected audience?

- Does it adequately inform the participants?
- Does it encourage a level of interaction and involvement appropriate to the decisions to be made?
- Does the method help identify issues, concerns, problems, and viewpoints?
- Does it allow for ideas to be gathered which can be used to solve problems?

Some methods of consultation are used mainly to convey information, others to encourage dialogue. When a proponent chooses methods, the distinction between methods which are mainly informational, and those which foster two-way communication should be kept in mind.

## ANALYSIS AND EVALUATION

The proponent should consolidate the comments from a consultation activity in an abbreviated format which can be easily read and evaluated by all interested parties. A summary report is then produced which presents the proponent's understanding of concerns and the steps taken to respond to them.

The purpose of the analysis is to summarize the number, content, and nature of comments. The analysis should attempt to answer such questions as:

- What comments were made concerning alternatives, their net effects and advantages and disadvantages?
- What reasons were given to support opinions?
- Who responded?
- Where did the input originate (e.g., locally, regionally, provincially)?
- What additional information, ideas, and issues were presented?

Evaluation begins after the analysis of comments has been completed. It is done to provide a basis for the integration of comments into the decision-making process. Evaluation interprets the importance of the public input relative to the other factors the proponent must consider.

While there is no special formula for evaluating comments, all requirements of the *Environmental Assessment Act* must be met. It is the proponents' responsibility to carry out the evaluation and to arrive at a decision by considering and weighing various viewpoints and documenting how the decisions were made. It is up to the proponent to choose the undertaking and seek approval for it.

**DOCUMENTATION**

Affected parties should be notified when key decisions are reached. The proponent provides a clear statement in the EA documentation on how comments were used in the decision-making process. Providing information on comments and the proponent's response to them in the EA may prove to be very significant in obtaining public acceptance of the final decision.

## APPENDIX A - METHODS AND TECHNIQUES

### CONSULTATION METHODS

The following is a brief description of some of the methods available to elicit and coordinate consultation. It is important not to rely on any single method of consultation. The integration of several methods is suggested. For example, proponents may wish to use working groups or workshops in conjunction with a conference.

FIGURE 1 summarizes several consultation methods and estimates their effectiveness according to pertinent criteria.

The ratings (high-medium-low) are based on experience and a literature review of methods. A **high** rating indicates a highly effective level of party-proponent interaction in problem solving and decision-making. A medium rating indicates a moderate exchange of information and involvement; a **low** rating indicates no input in the proponent's decision-making process, with information flowing predominantly from the proponent to affected parties with minimal opportunities for feedback.

FIGURE 2 explains the criteria used to evaluate the methods of consultation listed in FIGURE 1.

#### **Public Advisory Committee/Working Group**

An advisory committee is a group of individuals representing various interests affected by alternatives under discussion in a planning process. The Committee can provide a forum to discuss and evaluate issues, alternatives, and environmental concerns.

A **Public Advisory Committee (PAC)**, sometimes called a **Public Liaison Committee (PLC)**, usually serves in an advisory capacity to a study team. A PAC is a useful approach for information exchange between the public and the proponent. A PAC usually does not make decisions but is expected to arrive at reasoned recommendations. The PAC may make recommendations on evaluation criteria, public consultation programs, and aspects of the evaluation methodology, as well as act as a vehicle to keep the public informed of the study's progress.

Members of a PAC are sought from the community and may include representatives from such groups as interest groups, industry, chambers of commerce, and affected municipalities.

At the first meeting of the PAC, the terms of reference of the committee should be outlined. In some cases, the PAC may provide input into the creation of its terms of reference. The Chairperson is usually appointed from the general membership of the PAC, oversees its operation and conveys its recommendations to the study team. Meetings are usually open to the public and publicized.

A **Working Group** is a small problem solving committee that deals with specific tasks or projects. A working group may have members (usually 6 to 12) representing many different interests, such as ministries and agencies and interest groups. Because it often attempts to reach a consensus, working groups help to focus on the resolution of important issues.

Both advisory committees and working groups may produce position papers throughout the study process and a final set of recommendations concerning the undertaking and its alternatives.

**FIGURE 1 - CONSULTATION METHODS**

<b>METHOD</b>	<b>Audience Size</b>	<b>Expertise Required</b>	<b>Level of Involvement</b>	<b>Information Exchange</b>	<b>Education Potential</b>	<b>Problem Solving Value</b>	<b>Issue Identification</b>
Public Advisory Committee/Working Group	Small	High	High	High	High	High	High
Workshop/Seminar/Conference	Medium to Large	High	High	High	High	High	High
Open House (Public Information Centre)	Large	Medium	Medium	High	High	Low	Medium
Public Meeting	Large	Medium	Low to Medium	Low to Medium	Low	Low	Medium to High
Field Trip/Site Visit	Medium	Low to Medium	Low	Low to Medium	Medium	Medium	Medium
Display	Medium to Large	Low	Low	Low	Low to Medium	Low	Low
Survey and Questionnaire	Small to Large	High	Low	Low to Medium	Medium	Low	Medium to High
Briefing to Interest Group	Small	Medium to High	Medium	Medium	Medium to High	Low	Medium
Medium Presentation	Large	Medium	Low	Low	Medium	Low	Low

**NOTE:** Criteria are explained in Figure 2. No ranking of methods is implied.

**FIGURE 2 - EVALUATION CRITERIA FOR FIGURE 1****Audience Size:**

Normally considered to be:

Small	1 to 15
Medium	16 to 50
Large	greater than 50

**Expertise Required:**

Skills required by the proponent to provide effective consultation, such as presentation skills, technical knowledge and group interaction skills, questionnaire design experience, technical writing, preparation of displays.

**Level of Involvement:**

The potential for information exchange and input into the various processes.

**Information Exchange:**

The degree of information exchange that can be expected.

**Education Potential:**

The potential to raise the level of understanding of local issues and concerns, technical information, etc. among all participants.

**Problem Solving Value:**

The potential to solve problems and assist in the resolution of outstanding issues.

**Issue Identification:**

Potential to identify contentious and important issues within the study process.

## **Workshop/Seminar/Conference**

Workshops, seminars, and conferences provide an opportunity for a large number of people to learn about many diverse viewpoints. They are particularly useful for informing the public and increasing the general level of understanding.

A **Workshop** is a problem solving method and provides an opportunity for the exchange and clarification of information. A workshop usually consists of a number of people working in groups to identify, discuss, and resolve particular issues or problems. **Conferences and seminars** are used mainly to provide large groups with information on the planning process, the alternatives, and technical matters. They usually consist of a number of short presentations followed by question and answer periods.

All of the above methods need organization with objectives set out beforehand. A skilled moderator is normally required. To be successful, these methods also require proper notification of the event, an agenda, and a written summary (proceedings).

## **Open House (Public Information Centre)**

An **Open House** is a drop-in centre situated in an accessible location. Information is provided through a variety of exhibits, such as charts, maps, audio-visual presentations, reports, and brochures. The proponent, consultants, and technical staff should be available to provide information and record comments. Open houses are usually held at different stages throughout the process; such as, to announce the program, to provide background information on a key study phase, and to obtain public input and suggestions. Advance notification may be done by mailing, advertising, and the use of the media.

The open house can serve as a focal point for the consultation process. The meetings should be held at times when people are available, such as in the evening or on weekends and should avoid holiday periods.

The success of an open house depends on the advertisement and accessibility of the open house, proponent staff participation, anticipation of audience concerns, and initiating and maintaining two-way communication between the proponent and the affected parties. Response forms should be available to fill out. Completed forms provide the proponent with a written record of input and response. In a large study area, several open houses in different locations may be needed.

## **Public Meeting**

A public meeting is a gathering of the general public to present and exchange information with the proponent. Public meetings are useful to present and receive information and to acknowledge public input. Advertising and publicity are crucial to such meetings, as is the timing to capture the maximum attendance. The study team members should be available to answer questions. A question



and answer period after a presentation may be a useful way of obtaining public reaction to the ideas presented.

Disadvantages include the intimidating atmosphere that large public meetings can create and the limited exchange of information which the meeting provides.

At the meeting the public should be informed about the method that will be used to incorporate their concerns into the study.

### **Field Trip/Site Visit**

A site visit by interested parties provides a first hand view of the alternatives under investigation and may be a valuable educational tool. It can help to identify mitigation measures and concerns, but it requires a considerable amount of preparation in advance.

This method is most effective for small groups. It may include bus trips to view similar facilities, to examine alternative sites, and to observe environmental effects and mitigation measures.

### **Display**

Displays are often used in conjunction with other forms of consultation such as public meetings or open houses. Displays can also be used on an ongoing basis at locations which are readily accessible to the public such as a public library. Displays should be informative and easily constructed and may include site plans, maps, photos, and charts on study stages. The display should be integrated with handouts for later reference. Comments should be encouraged. The display should clearly indicate how to contact proponents, agencies and consultants.

### **Survey and Questionnaire**

Surveys and questionnaires may be done in person or by mail (mail survey responses are usually around 30%). Surveys often identify significant issues and have a greater potential audience when mailed. Surveys are a multi-purpose tool. They can be used to rate evaluation criteria, solicit information or comments on the alternatives, and to assess perceived trade-offs. A high level of expertise is required in the establishment of a survey, including the setting of specific objectives and formats that are readily analyzed and statistically valid. Surveys and questionnaires are most appropriately designed by trained professionals.

### **Briefing to Interest Groups**

A briefing is a presentation on issues to members of various groups, such as ministries and agencies, concerned about the study. A briefing may have an information/educational purpose to stimulate involvement or to provide accurate information. A briefing can often clear up misunderstandings, misinformation, and perceived problems which may be created in the course of a study.

Briefings require staff expertise (communications skills) since the information should be presented in a clear and straightforward manner. Briefings are usually more focused than a public meeting, and the proponent should be ready to address specific concerns that may be raised.

### **Media Presentation**

Media presentations may include the use of posters, cable television, radio, newspapers, brochures, newsletters and reports. These communication devices are passive because the flow of information is one way; however, they can encourage the public to take a more active role in the study. It is important for the proponent to educate and work effectively with the news media to help ensure that a balanced and thorough coverage of the process is obtained.

The use of central depositories of information, such as libraries or municipal offices is recommended to ensure access to material by all groups. Media presentations can be used to identify other public participation events such as open houses, workshops, and public meetings to ensure a large and informed attendance at the meetings.

## **COMMUNICATION TECHNIQUES**

Proponents are encouraged to explore several ways to announce events, rather than relying exclusively on one or two techniques. The following techniques are commonly used:

- News Release
- Paid Advertisement
- Brochure or Factsheet
- Newsletter
- Poster/Display
- "Call-In" Radio/Television Program
- Audio/Visual Presentation
- Public Service Announcement
- Informal Community Network

A **News Release** makes information available to a large and diverse audience. It spells out exactly what a proponent wants to say about a topic. However, it will likely be re-written or shortened by newspaper staff, and not all people will see the final article.

**Paid Advertisements** guarantee that information gets into print or on the air the way the proponent wants it to. Ads may have to be placed in several papers or be aired by many radio stations on several days to ensure adequate coverage.

**Brochures and Factsheets** can be used to supplement messages aired by the media. They are useful at the beginning of a public participation program to give a quick overview. **Newsletters** can be used to give regular or intermittent updating on an EA. A mailing list is required and should be kept current.

Printed material is a valuable educative tool and can be used to urge people to communicate their concerns. It can also provide opportunities for people to comment if a response form is included. As well, it provides a record of information given to the public.

**Posters and Displays** are often used in addition to paid advertisements to notify the public of coming events. They should be easy to read, uncomplicated in design, and located in high traffic areas. Public libraries, store fronts, community centres, and shopping malls are good places to post announcements or set up displays.

Many radio and television stations regularly air "**call-in**" programs. These programs can be used to explain the topic and solicit public comments. The program host can be supplied with a series of prepared questions to bring out points the proponent wishes to make.

**Audio/Visual Presentations (A/V)** can help to get a proponent's message across. Slide projectors, easel stands, overhead projectors, and video can be used to highlight points.

Before making a presentation a proponent should visit the meeting facilities and consider the size of the audience to choose the most suitable form of A/V.

**Public Service Announcements**, aired on radio and community television can reach a wide audience. They generate an awareness but are usually too short to create a clear understanding. There is also no guarantee that public service announcements will be aired.

**Informal Communication Networks** exist in all communities. The "service club" is one such network. Involving these networks in the EA process can increase the effectiveness of public consultation. Proponents should become familiar with the ways in which people within networks communicate with each other, the locations and times of meetings, and key persons to contact within the network.

**GUIDELINE E-3**  
**(formerly 03-04)**

**Environmental Assessment (EA) Planning and Approvals**

**Legislative Authority:**

*Environmental Assessment Act, RSO 1990*

**Responsible Director:**

Director, Environmental Assessment Branch

**Last Revision Date:**

April, 1994

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## SYNOPSIS

This guideline informs proponents and affected parties of the requirements of the *EA Act* and key features of environmental assessment. The Ministry will refer to this guideline in the course of reviewing environmental assessments (EA) under the *EA Act*.

Additional information is included in Procedure E-3-1: "Interim Procedures on Environmental Assessment Planning and Approvals".

### 1.0 Introduction

This guideline describes the five features which are the keys to successful planning under the *Environmental Assessment Act (EA Act)*. Before commencing planning, a proponent should review Procedure E-3-1: "Interim Procedures for Environmental Assessment Planning and Approvals". This procedure explains the requirements of the *EA Act* and discusses how the five key features can be incorporated in the planning process and preparation of the EA. Details of the approval process are provided in the *EA Act*.

Information relating to consultation with affected parties may be found in Guideline E-2: "Pre-Submission Consultation in the Environmental Assessment Process" and the associated Procedure E-2-1: "Procedures for Pre-Submission Consultation in the Environmental Assessment Process".

### 2.0 Definitions

#### The Proponent:

The organization responsible for the planning and implementation of the undertaking

#### Affected Parties:

Any members of the public or public interest groups with an interest in the undertaking, as well as government reviewers

### 3.0 Guideline Considerations

#### 3.1 Objectives

- (a) To describe the requirements of the *EA Act* and its basic concepts and principles.

- (b) To assist the proponent in carrying out planning and in documenting that planning to meet *EA Act* requirements.
- (c) To encourage the proponent to identify and resolve issues, to the extent possible, before an EA is formally submitted.
- (d) To promote an effective EA process.
- (e) To help reduce the time involved in the formal approvals process.

### **3.2 Features of Environmental Assessment**

The *EA Act* promotes good planning. There are five activities which are key to successful planning under the *EA Act*:

- (a) consult with affected parties;
- (b) consider reasonable alternatives;
- (c) consider all aspects of the environment;
- (d) systematically evaluate net environmental effects;
- (e) provide clear, complete documentation.

#### **3.2.1 Consult with Affected Parties**

Make the planning process a co-operative venture with affected parties. Early consultation with affected parties is essential.

Proponents should seek to involve all affected parties as early as possible so that their concerns can be identified and addressed before irreversible decisions and commitments are made on the chosen approach or specific proposals. To achieve this, the planning process must be constructed around the involvement and contributions of affected parties. This approach has a number of benefits which include:

- (a) improving the understanding of environmental concerns before the undertaking is selected and focusing the proponents' planning on matters of concern;
- (b) encouraging the identification and resolution of issues, to the greatest extent possible, before an EA is formally submitted, which expedites the formal approvals process; and
- (c) promoting mutually-acceptable, environmentally-sound solutions by developing positive relationships among those involved in consultation.

#### **3.2.2 Consider Reasonable Alternatives**

Consider a reasonable range of alternatives must be considered.

The planning must consider: "alternatives to" the undertaking, which fulfil the purpose of the undertaking in functionally different ways, and "alternative methods" of implementing a particular type of alternative. The "do-nothing" alternative must also be considered.

### **3.2.3 Consider all Aspects of the Environment**

Identify and consider the effects of each alternative on all aspects of the environment.

The planning process must consider not only effects on the natural or biophysical environment but also effects on "the social, economic and cultural conditions that influence the lives of humans or a community" and their inter-relationships, as well as technical considerations.

### **3.2.4 Systematically Evaluate Net Environmental Effects**

Explicitly evaluate alternatives in light of their advantages and disadvantages as developed through a net effects analysis.

The planning process shall include distinct points where alternatives are evaluated and the net environmental effects (effects remaining after mitigation or enhancement have been addressed) associated with each alternative are clearly identified.

Decision-making should be phased, narrowing progressively to a preferred alternative. This results in a process in which alternatives may be eliminated from consideration at different points in planning. Decisions on what type or combination of alternatives are preferred are generally made earlier in the planning process and more detailed decisions on how to implement the preferred alternatives are made later.

### **3.2.5 Provide Clear, Complete Documentation**

The process shall recognize the dynamic nature of environmental decision-making. In particular, it must be sensitive to changing conditions and new information and be flexible enough to deal with such input. This approach, if carried out effectively, results in identifying a preferred alternative which has a thorough and rational justification for environmental approval.

The EA should strive both to represent accurately the process that was followed in a clear and understandable way and to communicate the results of that process.

The approach the planning process followed and the way in which the principles of environmental assessment were addressed should be clearly explained in the EA. This can be termed "traceability". Clarity and simplicity are objectives as well as completeness and precision.

## **3.3 Implementation**

This guideline will be implemented by the Ministry during pre-submission consultation and the formal approvals process. It shall provide the basis for Ministry advice during pre-submission



consultation and for the evaluation of the planning process in the government review. The government review is one of the factors the Minister or board must consider in deciding if the EA is acceptable and the undertaking should be approved.

**PROCEDURE E-3-1**  
**(formerly referenced by 03-04)**

**Interim Procedures  
for  
Environmental Assessment Planning and Approvals**

July 1989

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## INTERIM PROCEDURES FOR ENVIRONMENTAL ASSESSMENT PLANNING AND APPROVALS

### 1.0 Introduction

These Procedures explain the requirements of the *Environmental Assessment Act* (the *Act*) and its basic concepts and principles. The *Act* is intended to provide for the protection, conservation and wise management of Ontario's environment through good planning and informed decision-making.

These Procedures reflect current practices in the administration of the *Act* and interpretations of the *Act* made by the Ministry of Environment and Energy and by boards in environmental assessment hearings. While these Procedures interpret the legal framework of environmental assessment, they are for advisory purposes only. In the case of any conflict or doubt, the wording of the *Environmental Assessment Act* and the regulations made under its authority will prevail.

The Procedures are divided into five parts:

- **Part 1 - Introduction** explains the purpose of the *EA Act* and which projects are subject to EA.
- **Part 2 - Key Features of Environmental Assessment under the *EA Act*** outlines the features upon which the EA planning should be based.
- **Part 3 - The Planning Process** describes the kind of planning process which will satisfy the intent and requirements of the *Act*.
- **Part 4 - The Environmental Assessment Document** describes the documentation requirements set out in the *Act*.
- **Part 5 - The Approval Process** describes the formal approval process for an Environmental Assessment submission.

Information on a particular project or general matters not addressed in the procedures can be obtained from the Environmental Assessment Branch at (416) 440-3450, or the local District or Regional Office of the Ministry of Environment and Energy.

The Procedures are updated and revised from time to time as experience is gained with the administration and interpretation of the *Act*. The Procedures focus specifically on the planning and approval of individual undertakings. Class environmental assessments are briefly discussed in Section 1.1 of the Procedures. Further information on class environmental assessments can be obtained from the EA Branch.

Suggestions for further revision and clarification of these Procedures are welcome and should be sent to the Director, Environmental Assessment Branch, Ministry of Environment and Energy, 250 Davisville Avenue, 5th Floor, Toronto, M4S 1H2.

### 1.1 Purpose of the *Act*

The purpose of the *Act* is "..... the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management of the environment" through good planning and informed decision making. There are **three basic requirements** of the *Act* which are central to achieving this:

- the potentially affected environment, which includes the natural, social, economic, cultural and technical components of the environment (section 1(c)) must be considered);
- the advantages and disadvantages of the undertaking and alternatives including the 'do nothing' alternative must be evaluated (section 5(3));
- government ministries and agencies and the public have an opportunity to provide comment to the Minister of Environment and Energy before the decisions on whether the EA is acceptable and the undertaking should be approved are made (section 7).

In summary, good planning and informed decision making are essential. These procedures explain the features of environmental assessment and how they should be applied in planning.

### 1.2 Which Projects are Subject to Environmental Assessment?

A project to which the *Act* applies is termed an 'undertaking', broadly defined in Section 1 of the *Act* "undertaking", means,

- (i) an enterprise or activity or a proposal, plan or program in respect of an enterprise or activity by or on behalf of Her Majesty in right of Ontario, by a public body or public bodies or by a municipality or municipalities, or
- (ii) a major commercial or business enterprise or activity or a proposal, plan or program in respect of a person or persons other than a person or persons referred to in subclause (i) that is designated by the regulations.

In general the *Act* applies to all provincial or municipal (public) undertakings and to specifically designated types of private projects. (See Appendix for further information on municipal and conservation authority projects). Certain public undertakings may be exempted from the *Act*, (e.g., ongoing maintenance and spill clean-up activities) while certain private undertakings may be specifically designated as subject to the *Act* (e.g., landfills over 40,000 m<sup>3</sup> in volume). The Environmental Assessment Branch can provide advice on whether a particular undertaking would be subject to the *Act*.

It is important to clarify whether or not the *Act* applies as soon as a problem or opportunity is identified, since projects subject to the *Act* may not proceed until an Environmental Assessment has been submitted and accepted, and the undertaking has been formally approved. This also assists proponents who are subject to the *Act* to develop a planning process which will satisfy the requirements of the *Act*.

### 1.3 Individual and Class Environmental Assessments

An undertaking can be either an individual undertaking or a class of undertakings. An individual EA specifies the time and place where the undertaking is to be carried out. A Class EA does not normally specify the time(s) and place(s) where projects within the Class will be carried out.

#### Individual Environmental Assessments

An undertaking may be either a single project or several distinct activities that may or may not be similar in nature. For example, two separate but associated highways dealt with as one proposal could be similar projects within a single undertaking. As well, a flood control dam, downstream channelization, and bank stabilization works would represent dissimilar projects within a single undertaking.

The typical individual environmental assessment includes a description of the alternatives that were considered, their net environmental effects and advantages and disadvantages, an explanation of why the project was chosen, as well as a more detailed description of the project for which approval is requested and its net effects, a project design, a location for the project, and a preliminary construction schedule. The review and approval process specified in the *Act* must be carried out before final approval is granted to implement the proposed undertaking (project).

#### Class Environmental Assessments

An approved Class EA provides a series of planning requirements, usually streamlined and standardized, for use solely with that particular group of projects. Among those standard requirements, the following are crucial:

- a definition of the situation (e.g., discovery of unanticipated environmental effects, significant public controversy) that, if encountered during project planning in the Class EA process, might cause the project to be disqualified as a class project and  
'bumped up' to an individual undertaking subject to normal individual EA planning, review and approval procedures;
- how affected parties (including the public) are informed and are able to participate in planning;
- the required content of the study report to be produced by the proponent for each project, presenting the basis of the decision to proceed with the project.

With approval of a Class EA in the usual manner as an individual EA, any project falling within the class has an approval under the *Act* if the approved environmental planning process described in the Class EA, is followed.

Preparation of a Class EA may be initiated in response to a specific proposal or it may simply be carried out without any specific current project intentions. The decision to proceed on the basis of a Class EA is really determined by whether such projects are likely to recur frequently.

## **2.0 Features of Environmental Assessment**

There are five features which are key to successful planning and approval under the *Act*. These five features will be evaluated in the Government Review of an EA. These features are:

- consult with affected parties;
- consider reasonable alternatives;
- consider all aspects of the environment;
- systematically evaluate net environmental effects; and
- provide clear, complete documentation.

### **2.1 Consult with Affected Parties**

**Make the planning process a cooperative venture with affected parties. Early consultation with affected parties is essential.**

The proponent should seek to involve all affected parties as early as possible so that their concerns can be identified and addressed before irreversible decisions and commitments are made on the chosen approach or specific proposals. To achieve this, the planning process must be constructed around the involvement and contributions of affected parties. The benefits include:

- improving the understanding of environmental concerns before the undertaking is selected and focusing the proponent's planning on matters of concern;
- encouraging the identification and resolution of issues before an EA is formally submitted to reduce the time involved for the formal approvals process;
- promoting mutually acceptable, environmentally sound solutions.

### **2.2 Consider Reasonable Alternatives**

**A reasonable range of alternatives must be considered.**



The planning must consider: '**alternatives to**' the undertaking, which fulfil the purpose of the undertaking in functionally different ways, and '**alternative methods**' of implementing a particular type of alternative. The '**do nothing**' alternative must also be considered.

## 2.3 Consider all Aspects of the Environment

**Identify and consider the effects of each alternative on all aspects of the environment.**

The planning process must consider not only effects on the natural or biophysical environment but also effects on "the social, economic and cultural conditions that influence the life of man or a community" and their inter-relationships. The level of detail will vary depending primarily on the significance of the effect and the stage in the study process.

## 2.4 Systematically Evaluate Net Environmental Effects

**Explicitly evaluate alternatives in light of their advantages and disadvantages developed through a net effects analysis.** The planning process must include distinct points where alternatives are evaluated and the net environmental effects (effects remaining after mitigation or enhancement has been addressed) associated with each alternative are clearly identified.

Decision-making should be phased, narrowing progressively to a preferred alternative. This results in a process where alternatives will be eliminated from consideration at different points in planning. Decisions on what type or combination of alternatives are preferred are generally made earlier in the planning process and more detailed decisions on how to implement the preferred alternatives made later.

The process must recognize the dynamic nature of environmental decision making. In particular, it must be sensitive to changing conditions and new information and flexible enough to deal with them. This approach, if carried out effectively, results in identifying a preferred alternative which has a thorough and rational justification for environmental approval.

## 2.5 Provide Clear Complete Documentation

**The EA should strive both to represent accurately the planning process that was followed in a clear and understandable way and to communicate the results of that process.**

The written description of the planning process and its results is the EA document, commonly known as "the EA". The planning process followed and the way in which the principles of environmental assessment were addressed should be clearly explained in the EA. This can be termed "**traceability**". Clarity and simplicity are objectives as well as completeness and precision.

Information on how these features can be incorporated in the planning process and the preparation of the EA is provided in Chapters 3 and 4 of these Procedures. Information relating to consultation with affected parties may also be found in the Ministry Guideline E-2: "Pre-Submission Consultation

in the EA Process" and the accompanying Procedure E-2-1 "Procedures for Pre-Submission Consultation in the EA Process".

### **3.0 The Planning Process**

In this chapter, the planning process is explained from the viewpoint of helping a proponent to produce the information required to proceed through the planning and the review and approval steps. It is essential to document and retain all relevant information concerning the criteria, decision making, and other matters relating to the evaluation and selection of alternatives and consultation with affected parties. Figure 1 sets out the planning framework.

#### **3.1 Statement of Purpose**

Planning begins with a statement of purpose: a statement of the problem or opportunity which is being addressed.

The purpose is what the proponent is trying to achieve. The possible solutions and criteria for evaluating them must not be included in the purpose statement.

In stating the purpose, it is important that the definition is broad enough to allow a reasonable range of alternatives to be considered in planning. During the planning process, the purpose statement may be clarified or changed as a result of new information. It is important to document the changes to the purpose and the reasons why it has changed.

At the end of the planning process, the proponent should define the purpose of the preferred alternative, the undertaking more specifically and in greater detail.

#### **3.2 Systematic Evaluation of Net Environmental Effects**

The analysis of net effects has become an important feature of EA in Ontario. Net effects analysis sets out the planning framework which integrates other key components of EA planning, including the broad definition of environment and the consideration of alternatives which are discussed in Sections 3.4 and 3.5 of these Procedures.

Net environmental effects are defined as the remaining environmental effects, both positive and negative after reasonable ways to minimize negative effects (mitigation) and increase positive effects (enhancement) have been considered and incorporated as appropriate. It is these net environmental effects, which represent what is actually expected to occur if an alternative is carried out. They are used to determine the advantages and disadvantages of alternatives. Figure 1 sets out a general framework for net effects analysis.

The planning framework is based on a phased sequence of decision making, with distinct points in the planning process where alternatives are evaluated on their net environmental effects, and either rejected or carried forward for further study. This can result in a process where alternatives are eliminated from consideration at different points in planning. Some alternatives may be eliminated

on the basis of a less detailed evaluation of their net effects and advantages and disadvantages, than others.

In the early stages of planning, when the precise size, location or phasing of alternatives are not known, it may be appropriate to present less detailed information on the net environmental effects. As the number of alternatives decreases, it may become more difficult to differentiate between their relative advantages and disadvantages required to reach decisions. Precisely what level of detail is required depends on the specific circumstances and the opinions of the proponent, government, the public and the Board.

### **Level of Detail**

The decisions which are made on the level of detail will influence the study approach and the information collected. It should be addressed early, and input sought from government and the public since different parties may have different opinions on the level of detail needed to differentiate between alternatives. During the formal approvals process the level of detail may be questioned and a proponent may be required to provide more information. Figure 2 addresses the level of detail.

## **3.3 Determining Reasonable Alternatives**

The issue of what constitutes a reasonable range of alternatives to consider is a difficult one. It is important to consult affected parties early in the planning process before decisions are made to exclude certain alternatives which may appear reasonable. However, the decision on what constitutes a reasonable range of alternatives remains the proponent's responsibility, subject to approval by the Minister or the Board.

In any situation, there may be many different ways to address the problem or opportunity. An initial screening of these alternatives helps a proponent to decide which alternatives are reasonable and therefore have merit in the particular case. The proponent should include functionally different ways of addressing the problem or opportunity at the outset to ensure that both kinds of alternatives required by the *Act* are considered (see Section 3.4 of these procedures for a discussion of functionally different alternatives).

It is important to clearly explain the way in which the initial set of alternatives was determined including the criteria and assumptions which were used. Since some alternatives may be found to be unreasonable and therefore, eliminated on the basis of one or more outstanding negative features, it is important that these negative features be clearly explained.

Documenting the results of the initial screening helps all participants to understand the judgements which were made to determine which alternatives were considered reasonable to carry forward.

## **3.4 Alternatives**

After carrying out an initial screening, a proponent should have determined which alternatives are to be studied further.

**(a) The Two Types of Alternatives**

Consideration of two types of alternatives is required by the *Act*: alternatives to the undertaking and alternative methods of carrying out the undertaking. The do nothing alternative must also be considered.

Alternatives to the undertaking are functionally different ways of approaching and dealing with a problem or opportunity. Alternative methods of carrying out the undertaking are different ways of doing the same activity.

A series of examples of the distinction between the two kinds of alternatives follow for several types of activities. The Ministry is not suggesting that these are the only alternatives which should be considered. Which alternatives to be considered is determined on a case-by-case basis by the proponent, taking into account the specific circumstances and the views of ministries and agencies and the public.

**Waste Management Example**

In the waste management field, a number of functionally different alternatives exist. These include waste export and the 3Rs: recycling, reuse and reduction.

In each of these cases, there are different methods of carrying out a particular alternative. For example, for a landfill alternative, these methods could include landfills at different locations, or of different sizes or those of different engineering design (i.e., synthetic liner or natural attenuation).

**Transportation Example**

Functionally different alternatives could include new or improved public transit, rail service, air service or incentives to reduce traffic and new or improved roads.

For a road alternative, the alternative methods could include improvements to existing roads, construction of a new road, different road types and different road alignments.

**Energy Example**

Functionally different alternatives could include transmission of energy, generation (the production of new energy), and conservation/efficiency (the reduction of demand for energy), and substitution of less environmentally harmful fuels or other sources of energy.

For a transmission alternative, the methods could include different locations, line voltages, tower design and various ancillary facilities.

**(b) The Do Nothing Alternative**

The do nothing alternative represents what is expected to happen if none of the alternatives being considered are carried out and should be considered by the proponent in all cases.

Normal ongoing maintenance or improvements should be included as part of the 'do nothing' alternative.

The consideration of the 'do nothing' alternative assists all participants by providing a benchmark against which the consequences of the alternatives can be measured. A clear presentation of the 'do nothing' alternative also assists the Minister of the Environment or the Board in deciding whether the undertaking should be approved (see Section 3.8).

**(c) Flexibility**

While the *Act* requires that two types of alternatives be considered, it should be noted that there is some flexibility. Public sector proponents will normally find that the set of alternatives arising from the initial screening includes the two types of alternatives required by the *Act*. This is because of the relatively broad mandate of the public sector for addressing problems or opportunities.

In some instances, particularly for private sector proponents, the set of alternatives arising from initial screening may not include the two kinds of alternatives set out in the *Act*. Proponents who find themselves in this situation should pay special attention to defining and describing the problem or opportunity being addressed, their mandate (or market sector), the functions of the undertaking, and the initial screening which was carried out.

Excerpts from the Joint Board decision on a Resource Recovery Facility proposed by SNC Inc. in the Regional Municipality of Peel may be found in Appendix E. These excerpts relate to the interpretation of the *Act*.

Decisions on what is an acceptable range of alternatives are, however, made on a case-by-case basis, and consider the mandate or market sector of the proponent, the alternatives which were examined, the problem or opportunity being addressed, the function(s) of the undertaking, the views of affected parties, and other relevant information. It is imperative that where a proponent believes that the set of alternatives will not include the two kinds required by the *Act*, early contact be made with the EA Branch to discuss the set of reasonable alternatives.

In the final analysis, decisions made by the proponent on which alternatives to consider may be questioned by the Minister, the Board where a hearing is required, and/or any affected party. The proponent may be required to provide further information. Delays in the approval process can be avoided by ensuring that appropriate information concerning alternatives, including those initially screened out as unreasonable, is obtained in planning and documented in the EA.

### **3.5 Environmental Criteria and Evaluation Methods**

#### **(a) Environmental Criteria**

Proponents should ensure that the environmental criteria they employ for evaluating alternatives include all components of the environment specified by the *Act*. These are the social, cultural, technical, economic and natural components of the environment. Government ministries and agencies and the public wherever possible, should be asked for their comments on the proposed criteria.

The reasons for selecting the criteria should be clearly defined and explained. This will help all affected parties to understand the judgements which were made and allow them to participate more effectively.

Wherever possible, the same set of criteria should be used as the framework for the entire evaluation process. The level of detail in which alternatives are evaluated will normally increase as a proponent proceeds through the planning process. As more information is acquired on the likely net environmental effects and on the areas of specific concern to affected parties, it may result in more detailed criteria and produce changes in the criteria. The changes which were made and the reasons for them should be documented for inclusion in the EA.

#### **(b) Evaluation Methods**

The *EA Act* does not require a specific method or methods for predicting and evaluating net effects, advantages and disadvantages of alternatives and the undertaking. Different methods will be appropriate for different types of projects and different proponents.

It is important, however, that a proponent establish one or more methods for predicting and evaluating net environmental effects. These should be clearly described and government ministries and agencies and the public should be asked for their comments early in the planning process, wherever possible.

In many cases, choosing between alternatives is the most difficult part of planning. In choosing methods for predicting net environmental effects and evaluating advantages and disadvantages, proponents are advised to select methods which will clearly identify relative differences and key impacts to make the trade-offs involved in selecting the undertaking clear.

### **3.6 Data Collection and Evaluation**

#### **(a) Environment Affected**

Once environmental criteria and methods for predicting and evaluating the net environmental effects of alternatives are established, a proponent collects information about the environment affected.



The study area for each alternative, or for each component of the environment, may vary depending on the alternative itself and the geographic extent of the environmental effects. It is important to clearly describe how and why the boundaries of the overall study area and the study area for each alternative and/or effect were chosen. The boundaries themselves should be clearly identified. Maps can help in presenting this information.

The description of the environment affected should consider all components of the environment. The existing and expected future conditions within the study area(s) are described. In discussing future conditions, proponents should recognize that the environment is not static and should describe activities which would occur in any event.

The amount of information which is available will often vary. Proponents should identify the methods of data collection and data sources, as well as any identified data gaps and their significance, and actions taken to address data gaps.

**(b) Environmental Effects**

In evaluating alternatives, the environmental effects of each alternative on all components of the environment must be identified and described.

Effects can be positive or negative, direct or indirect. The method that was used to predict environmental effects should be clearly described and documented in the EA. Both positive and negative environmental effects should be presented in the EA to provide a balanced picture of the likely environmental effects.

Where the environmental effects are uncertain, proponents should explain why and fully explain the factors that cause the problem and how it has been addressed in the evaluation. For example, a proponent may not be able to precisely predict the effect because a new process or technology is being proposed. In this case, the proponent should discuss why the effect may vary, identify the expected range of effects, and the level of certainty of these predictions.

Environmental effects are also either direct or indirect. Direct effects are usually the immediate effects which can be attributed specifically to the building and/or operation of an alternative.

In addition to the direct effects of implementing a particular alternative, indirect effects may also result. Wherever reasonable, proponents should also identify and evaluate the indirect and cumulative effects of alternatives.

The proponent should concentrate on information which is likely to be of key significance. The data base need only contain that amount of information sufficient to allow the net environmental effects to be described in an appropriate level of detail.

Where a proponent determines that one or more components of the environment will not be affected, this conclusion, as well as the way in which it was reached, must be documented.

Government ministries and agencies and the public can provide valuable input on both the range of effects to be considered and what level of detail they consider to be appropriate.

**(c) Mitigation/Enhancement Measures**

The *EA Act* requires a proponent to describe the actions necessary to "prevent, change, mitigate or remedy" the environmental effects of the undertaking and the alternatives. Mitigation measures reduce or avoid negative effects, while enhancement measures increase the positive effects.

These measures can be addressed in a variety of ways depending on the stage in the planning process and the significance of the expected environmental effect. For example, in the early stages of planning or where the effect is common for all alternatives, general types of mitigation measures can be considered.

A proponent might, for example, decide that a landscaped buffer zone would be provided for all alternative landfill sites to reduce the negative visual effects without specifying the location or dimensions of the buffer zone. This information will, however, be required for the undertaking.

Prevention or avoidance of environmental effects should also be considered.

In later stages of the planning process when the alternatives are more fully developed, or where the effect is significant or site specific, the proponent should provide more detail on the environmental effects and mitigation or enhancement measures.

Where mitigation is either not necessary because of the nature of the effect or is not reasonably available, the requirements of the *Act* can be met by discussing in the EA how and why this was determined.

Where a variety of mitigation or enhancement measures are available, the relative merits of each should be considered through consideration of their cost and effectiveness including any environmental effects they themselves may give rise to.

In some cases, the consideration of mitigation could change the alternative which is preferred. For example, in choosing between alternatives A and B on the basis of gross environmental effects, Alternative A, appears to have much more significant effects than the Alternative B. If a decision was made at this point, Alternative B would be selected. If however, ways to mitigate negative environmental effects and enhance positive effects are considered, the preference may be reversed.

**(d) Trade-offs, Value Judgements and Consultation**

Because of the broad definition of the environment used in the evaluation, one alternative is rarely preferred to all others in every respect. Relative advantages in one area may be offset by relative disadvantages in another. A consistent basis for trade-offs is therefore important so that a solid case is made for the selection of the preferred alternative. Often this is the



most difficult stage of the evaluation and should be documented as clearly as possible (see clear complete documentation, Section 2.5 of these Procedures).

Summary charts are a useful way of presenting information on the advantages and disadvantages of alternatives. Figure 3 is one example of such a summary chart. The information provided should address the:

- (i) Relevant portions of the historical record, the chronological sequence of events and decisions including input from government ministries and agencies and the public;
- (ii) Key decisions and their reasons including the identification and evaluation of alternatives.

Both of these aspects of the planning process should be clear to the reader of the environmental assessment.

### **3.7 Description of the Undertaking**

The undertaking is the preferred alternative selected by the proponent. It is the alternative which for the proponent has the preferred balance of advantages to disadvantages. Other parties may have different perspectives and believe that another alternative is better. While the proponent should consider input from other parties, the decision is the proponent's, subject to challenge. In the final analysis, the Minister or Board will consider the proponent's information as well as any submission from other parties in determining whether the undertaking should be approved.

The description should specify clearly and comprehensively what the proponent is seeking approval for, so that the proponent will be able to proceed if the undertaking is approved. The description of the undertaking is more detailed than the description of alternatives. It is appropriate and desirable that the proponent have some flexibility in proceeding with the undertaking. He must, however, describe and set the limits on this flexibility in the description of the undertaking.

The description might include some or all of: location, dimensions, construction, operation, maintenance, decommissioning, industrial processes, nature and sources, fuels and raw materials, by-products, emissions, effluents, support services required (i.e., sewers, water supply and electricity, etc.), products and services supplied, scale of employment, schedule for production and operation.

All commitments to future action on the part of the proponent must be clearly specified including such matters as mitigation, monitoring, contingency planning and future consultation with ministries and agencies and the public.

### **3.8 Rationale for the Undertaking and Alternatives**

#### **3.8.1 Rationale**

The statement of rationale represents a proponent's summary explanation of the decisions that were made throughout the process to select the undertaking from the alternatives considered. The evaluation of the 'do nothing' alternative serves to identify whether each of the alternatives considered, including the undertaking, are preferred to the 'do nothing' alternative.

The statement of rationale is normally presented in a separate section of the EA document. Proponents should not, however, wait until the end of planning to document the rationale. Since the rationale is the summary of the decisions which were made throughout planning, proponents should document the rationale for the decisions made at each decision point.

### 3.8.2 Need

The word "need" is not a term which is used in the *EA Act*. Despite this, the issue of whether a specific proposal is "needed" often arises in planning, and is one which the EA Board considers to be important.

In the reasons for decision on application by the Ministry of Transportation and Communications for a new four-lane freeway (Highway 416) in the Ottawa area, the EA Board commented that:

"... the Board must be convinced that there is a need that must be satisfied and that the undertaking proposed will satisfy the need with the advantages outweighing the disadvantages to the proponent and the people of the Province. If there is no need, the Board cannot accept that the wise management and conservation of the environment would in fact be accomplished."

The concept of need is subjective and its definition may vary depending on the perspective of the participant. The proponent is expected to address "need" from its own perspective.

At the outset of planning the proponent is aware of a perceived need to solve a problem or to take advantage of an opportunity which is subsequently tested in the evaluation of alternatives throughout the planning process. A clear description of the problem or opportunity provides one element of "need".

The proponent addresses "need" in evaluating the advantages and disadvantages of alternatives. The results of the evaluation process serve to clarify, quantify and justify the perceived need.

The need for the undertaking is explicitly established at the end of the planning process when a preferred alternative is selected. It should be evident that the balance of advantages to disadvantages is better, based on the study information for the undertaking than for all the other alternatives considered, including the 'do nothing' alternative.

The comparison of the undertaking to the do nothing alternative is a key aspect of demonstrating the "need" for the undertaking. This provides the basis for determining that the

advantages of proceeding with the undertaking outweigh the disadvantages to the proponent and the people of the Province.

In the final analysis, the Minister, or the Board will consider the proponent's information on "need", as well as any submissions from other parties, in determining whether the undertaking should be approved.

#### 4.0 The Environmental Assessment

##### 4.1 Document Format

The environmental assessment has to satisfy both expert and lay readers. It therefore must include not only complete technical support for the EA application but also the explanation and information needed for non-specialists to understand the planning process that was followed and the proposed undertaking. Developing an appropriate document is an important topic for discussion with the EA Branch and other interested parties prior to submission of the EA.

It is of prime importance to provide a clear presentation of the essential case in the EA. Detailed technical analysis and data, wherever appropriate, should be placed in appendices and support documents that may be consulted as necessary.

It is important to cross-reference information so that all readers can find specific information in the EA and supporting documents.

Summaries for all major sections and for areas of technical analysis should be used to maintain links between detailed discussions and the overall argument. Graphics and summary tables can be particularly effective in clarifying the main points of an evaluation.

A flow chart representing the proponent's planning and decision-making process, cross-referenced to sections of the EA, is recommended.

Regulation 205/87 (clause 2(1) to the *EA Act* requires that an EA submission also contain an executive **summary**. This summary must include:

- (a) a **brief summary** of the EA organized in accordance with subsection 5(3) of the *Act*;
- (b) a **list of studies and reports** which are under the control of the proponent and which were done in connection with the undertaking or matters related to it;
- (c) a **list of studies and reports** related to the undertaking or matters related to it, not under the proponent's control but of which the proponent is aware;
- (d) where the EA is for an undertaking with a fixed location, at least **two unbound, well marked and legible maps**, approximately 210 millimetres by 300 millimetres in size showing the location of the undertaking and the area to be affected by it.

One of these maps shall be a **simplified base map** suitable for reproduction on any notices and the other may include more detail, such as 1:10,000 scale Ontario Base Map. These maps will be used in public notices and included in the Government Review.

To facilitate review by government bodies, a minimum of 50 copies is normally required, but the exact number should be confirmed with the EA Branch prior to submission.

It is preferable if the EA is submitted on standard materials in standard sizes with reproducible graphics. Character and note size in maps and diagrams should be no smaller than seven points after reproduction. Shaded mapping should be done in a non-complex black-and-white format. Blackline is preferred for either diazo or print reproduction. It is suggested that EAs be reproduced on recycled paper printed on both sides.

Proponents may wish to make the EA available at community libraries and to provide copies to the public.

The EA Branch will also provide copies of the EA to:

- Ministry of Government Services - this Ministry produces microfiche copies of documents which can be purchased;
- Local District and Regional Offices of the Ministry of Environment and Energy.

This wide distribution allows all parties to gain easy access to the EA.

The following section lists the eight headings under which the planning process and undertaking are to be described in the EA. The detailed information is fully explained in the preceding Chapter 3.

#### **4.2 Description of the Undertaking**

The description of the undertaking explains what the proponent is seeking approval for. It is important that the explanation be clear and comprehensive, since it sets forth what a proponent who receives approval will be legally committed to. A proponent with EA approval is not required to proceed; he is merely required not to go beyond the approval.

Further information on what should be included in the description of the undertaking is in Section 3.8 of these Procedures.

#### **4.3 Description of the Purpose of Undertaking**

Proponents should describe the purpose of the study, the changes which were made to it during the planning process, and the purpose of the undertaking.

Further information on the description of the purpose is in Section 3.2 of these procedures.

#### **4.4 Description of Alternatives to the Undertaking and Alternative Methods of carrying out the Undertaking**

The alternatives which were considered throughout the planning process, beginning with the determination of reasonable alternatives must be described.

Sections 3.3 and 3.4 of these Procedures provide further information on alternatives.

#### **4.5 Description of the Environment Affected**

The description of the environment affected should include all components of the environment (social, cultural, economic, technical and natural).

Section 3.5.1 of these Procedures provides further information on the description of the environment affected.

#### **4.6 Description of Environmental Effects**

The likely environmental effects of each alternative on the full definition of environment must be identified and described. The EA should also include a discussion of the methods that were used to predict environmental effects.

Further information may be found in Section 3.5 of these procedures.

#### **4.7 Description of Mitigation/Enhancement Measures**

The EA must include a description of ways to "prevent, change, mitigate or remedy" the potential environmental effects and should also describe measures to increase or enhance positive effects.

Further information may be found in Section 3.5 of these guidelines.

#### **4.8 Evaluation of Advantages and Disadvantages**

The EA must include an evaluation of the advantages and disadvantages to the environment of alternatives and the undertaking, based on the "net" environmental effects. A clear explanation should be provided of the evaluation methods, the way in which they were used and the results of the evaluation at each decision-point.

Section 3.1, 3.5 and 3.8 of these procedures provide more information on evaluating alternatives and the undertaking.

#### **4.9 Description and Statement of the Rationale for the Undertaking and Alternatives**

The statement of rationale summarizes the decisions that were made throughout the process to reject certain alternatives and the reasons why the undertaking should be approved.

Further information may be found in Section 3.6 of these procedures.

## **5.0 The Approval Process**

### **5.1 Government Review of the Environmental Assessment**

On receipt of an environmental assessment, the Minister arranges for a review to be prepared. The review is coordinated by the Environmental Assessment Branch. The participants usually include reviewers in provincial ministries and agencies and selected federal departments and agencies. In specific cases, the Ministry may retain outside experts to assist in the Review.

The purpose of the review is:

- In general, to provide a broad evaluation of strengths and weaknesses; and
- In particular, to determine the extent to which the requirements set out in subsection 5(3) of the *EA Act* are met.

These requirements have been described in Sections 3 and 4 of these Procedures.

#### **5.1.1 Review Process**

The review process will be summarized briefly here and is discussed in more detail in the Ministry's Guideline E-1: "The Role of the Review and Review Participants in the EA Process". The guideline is available from the Environmental Assessment Branch.

Two criteria are used to judge the extent to which an EA meets the *Act's* requirements:

- (i) Are all required components present?
- (ii) Is the technical quality and level of detail of the information satisfactory and was an appropriate range of alternatives considered?

The Environmental Assessment Branch evaluates whether the first criterion has been satisfied. Those ministries and agencies participating in the review or reviewers, are asked to consider how well the EA meets the second criterion, within their areas of concern.

The EA Branch and government reviewers also advise whether they are satisfied with the weight given by the proponent to their agencies' policy interests. Where reviewers find significant deficiencies, they may advise on changes to the EA or on further research.

The Environmental Assessment Branch evaluates and consolidates the comments of the various reviewers into a document. This is referred to as the 'Review' and is released for



comment to the public, municipalities, government ministries and agencies and the proponent before a decision on acceptability of the EA is made.

To do this, the Minister notifies the proponent, any municipalities likely to be affected by the undertaking, and the public that the environmental assessment and the Review are available for inspection. During a minimum 30-day period, anyone may submit written comments on the matter to the Minister of Environment and Energy and may require that a public hearing be held.

## 5.2 Decision Process

Decisions regarding a proposed undertaking are made after the Review of the EA has been published and the minimum 30-day public review period has ended.

The *EA Act* sets out two basic decision points:

- whether to accept the environmental assessment as a basis for making a decision on the undertaking;
- whether to approve the undertaking.

The decision on acceptance is made by the Minister of the Environment or, if requested by the Minister, by a hearing board. The decision on approval is made by the Minister, together with Cabinet unless the matter is referred to a hearing board.

### (a) Acceptance of the Environmental Assessment

To determine the acceptability of the EA, the Minister must consider:

- The purpose of the *Act*.
- The government review of the EA.
- Any submissions made by the public, government ministries and agencies or the proponent.
- The Environmental Assessment.

The proponent or any affected party may, with reasons given, require the Minister to hold a public hearing on the acceptability of the environmental assessment. The Minister must do so, in the words of the *Act*, "unless in his absolute discretion he considers that the requirement is frivolous or vexatious or that a hearing is unnecessary or may cause undue delay".

With this information in hand, except where a hearing is required, the Minister decides whether the environmental assessment:

- is acceptable as submitted for the decision on approval;
- would be acceptable with certain amendments;
- requires further research, investigation, changes, and additions by the proponent to be acceptable;
- should have its acceptability decided by a hearing board rather than by the Minister.

The Minister's decision is communicated to the proponent and affected parties may be challenged by any party who made a submission to the Minister.

Thus the presentation of reasons and information for or against the acceptability of the EA by affected parties or against further work on it by the proponent are important factors for the Minister to consider.

### 5.2.3 Approval of the Undertaking

When an environmental assessment is determined to be acceptable, either as submitted or as amended, a decision is made on whether the undertaking should be approved.

If a hearing board has ruled on acceptability, the same board decides whether to approve the undertaking.

If the Minister has determined that the EA is acceptable either as submitted or as amended, the Minister can choose either to make the approval decision or refer the decision on approval to a hearing.

The decision on approval itself, whether made and reported by the Minister or by a hearing board, will have one of three results:

- giving approval to proceed with the undertaking;
- refusing approval to proceed;
- giving approval to proceed with certain conditions.

In the last case the decision will specify the requirements being imposed on the proponent. As outlined in clause 14(1)(b) of the *Act*, the conditions might include such things as methods of implementation, particular mitigative measures, further research and monitoring programs, and allowed periods of construction and operation.

If made by the Minister together with Cabinet, the decision on approval is final. If made by a hearing board under the *Environmental Assessment Act*, the decision is final only if the Minister does not intervene within 28 days. During that interval following a board decision, the Minister may, with Cabinet approval, modify the decision in any way, reverse it,



substitute a different decision, or instruct the board to reconsider its decision or even order a new hearing to be held.

If the hearing was held by a Joint Board under the *Consolidated Hearings Act*, any member of the public may appeal the decision to Cabinet within 28 days. Cabinet may modify the decision in any way, reserve it, substitute a different decision or order a new hearing to be held on all or any part of the proposal.

#### (b) **Three Decision Routes**

The options available within the approval process therefore mean that an environmental assessment, once submitted, normally follows one of three decision routes. These routes are shown in Appendix F to these Procedures.

- The **first route** is the quickest and normally occurs only with proposals where no serious objections are raised by affected parties and no hearings are called. The Minister makes both acceptability and approval decisions.
- The **second route** is where a public hearing is called to decide both the acceptability of the EA and the approval of the undertaking.
- The **third route** lies between the previous two routes. The Minister decides the EA is acceptable, however, he determines that a hearing is advisable to decide on approval of the undertaking.

### 5.3 **Board Hearings**

A public hearing on an environmental assessment called by the Minister is ordinarily held before the Environmental Assessment Board. But in cases where approval of the undertaking under the *Act* would lead to further hearings by other tribunals under other acts, the proponent can request a consolidated hearing by a Joint Board under the *Consolidated Hearings Act*, and so avoid the cost and delay of multiple hearings.

#### (a) **Hearing Participants**

The following are eligible to participate at Board hearings:

- the proponent;
- any person who has asked for a hearing;
- other persons or agencies recognized by the Board as having an interest in the proceedings; and
- the Minister (of Environment and Energy), represented by counsel or otherwise.

**(b) Environmental Assessment Board Hearings**

The composition and powers of the Environmental Assessment Board are set out in Part III of the *Environmental Assessment Act*. They include the following:

- The Board is independent; its members are appointed by Cabinet but are not employed by any Ministry.
- Except in very rare circumstances, all Board hearings are open to the public.
- EA Board decisions become final in 28 days unless the Minister intervenes on behalf of the government.

The Board may be required to hold a hearing by the Minister at any time after the expiry of the 30-day public notice period following the publication of the Review. In addition, at certain times, the proponent or anyone else can request that a hearing be held:

- within 30 days (or more if the Minister stipulates) of public notification that an environmental assessment and government review are available for inspection;
- within 15 days of public notification that the environmental assessment has been accepted, either as submitted or as amended, by the Minister.

During these intervals, any person may submit written notice to the Minister requesting a hearing. This notice must be accompanied by a written presentation of information and reasons why the hearing is desirable. On receiving this notice the Minister must call a hearing unless it is determined that the request is frivolous or vexatious or that a hearing is unnecessary or may cause undue delay.

**(c) Joint Board Hearings under the *Consolidated Hearings Act*, 1981**

When a project requires approval under several Acts and before several boards, the *Consolidated Hearings Act*, provides for single hearing on all approvals. The relevant Acts are set out in a schedule to the *Consolidated Hearings Act*, 1981. They include the *Environmental Assessment Act*, the *Environmental Protection Act*, the *Expropriations Act*, the *Ontario Municipal Board Act*, the *Ontario Water Resources Act* and the *Planning Act*.

A Joint Board is established *ad hoc* for each application and will have at least one member (and perhaps more) from the Environmental Assessment Board or the Ontario Municipal Board or both. In relation to the decisions required under the *Act* (acceptability of the environmental assessment and/or approval of the undertaking) the Joint Board acts as though it were an Environmental Assessment Board, with equal or greater powers.

A Joint Board hearing may differ from an EAB hearing:

- the hearing may be 'phased', that is, decisions on particular matters under consideration may be deferred until a later date;

- the decision may, within 28 days, be appealed to Cabinet by any participant in the hearing.

For these reasons, as well as to save time, Joint Board hearings are sometimes preferred by participants.

A consolidated hearing may be chosen by the proponent or ordered by individual boards. The proponent wishing a consolidated hearing must give written notice to the Hearings Registrar, explaining the general nature of the undertaking, the hearings that may be required, and *the Acts* in question.

Under certain circumstances, the Environmental Assessment Board, the Ontario Municipal Board, and some other boards may require a proponent to pursue a consolidated hearing.

#### **5.4 The Environmental Assessment Advisory Committee**

On July 4, 1983, the Environmental Assessment Advisory Committee (EAAC) was appointed to provide advice, at the Minister's request, relating to applications for exemptions from the provisions of the *Environmental Assessment Act*, requests for the designation of undertakings to render them subject to the *EA Act*, and any other related matters as the Minister may prescribe.

There are three types of EAAC review that the Minister may ask to be conducted:

**Category A:** Open Review - Public notice and consultation will be given in the manner to be determined by the Committee.

**Category B:** Defined Review - Public notice and consultation is limited to affected groups and individuals selected by the Committee and by the Minister.

**Category C:** Internal Review - In exceptional circumstances the Minister may require the advice of the Committee respecting a matter only requiring an internal review. Should the Committee consider consultation is necessary for this review, the Minister's approval will be sought.

The Minister shall decide the timeframe within which the Committee's advice is to be provided. The normal timeframe for Category A shall be six weeks, for Category B six weeks and two weeks for Category C.

#### **5.5 The Public Record**

Files on projects in Pre-Submission Consultation and the formal approval process are maintained at the EA Branch offices in Toronto and are available for people to review upon request. The EA Branch files contain all information received by the Branch from any participant.

Information contained in the public record file includes:

- the EA - when submitted to the Minister of Environment and Energy;

- the Notice of Completion of Review and the Review - when the Notice is published;
- written submissions to the Minister or Ministry of Environment and Energy staff;
- any decisions of the Minister or a hearing board; and
- all notices and orders issued under the *Act*.

Certain information, including the environmental assessment and the Review may also be viewed at the local District or Regional Office of the Ministry of Environment and Energy.

**GUIDELINE E-4**  
**(formerly 03-05)**

**Interim Expansion of Municipal Landfills**

**Legislative Authority:**

*Environmental Assessment Act, RSO 1990*  
*Environmental Protection Act, RSO 1990*

**Responsible Director:**

Director, Environmental Assessment Branch

**Last Revision Date:**

April, 1994

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## SYNOPSIS

This guideline is designed to assist a **proponent** who has begun developing a long term solution to waste management responsibilities, but who expects that the existing landfill(s) will reach authorized capacity before a "long-term" solution is approved, constructed and ready for operation. The guideline applies where the preferred solution to the above problem is the **interim expansion** of existing landfill(s). It only applies to sites dealing with municipal waste, and does not apply to hazardous or liquid industrial waste sites, except for sites to which O. Reg. 348, R.R.O. 1990, applies.

The Ministry will apply this guideline to private sector proponents who are functioning or providing a service exclusively for the benefit of a municipality.

### 1.0 Introduction

This guideline is designed to assist proponents which have begun developing a long-term solution to their waste management responsibilities and where they expect that the existing landfill(s) will reach authorized capacity before a "long-term" solution is approved, constructed and ready for operation. It applies to sites dealing with municipal waste, and does not apply to hazardous or liquid industrial waste sites, except for sites to which O. Reg. 348, R.R.O. 1990 applies.

This guideline applies where the preferred solution to the above problem is the interim expansion of existing landfill(s).

In order to proceed with an interim expansion, a proponent must obtain a Certificate of Approval under the *Environmental Protection Act (EP Act)*. Application for this approval may trigger a mandatory *EP Act* hearing, and in turn, trigger the application of the *Environmental Assessment Act (EA Act)*.

Ordinarily an environmental assessment would have to be prepared and formally processed under the *EA Act*. In the circumstances described, the Minister shall consider granting an *EA Act* exemption order, provided a proponent meets the terms of this guideline.

This will allow proponents to proceed to the mandatory *EP Act* hearing and assist in addressing any technical concerns which the idea of interim expansion might raise.

While proponents should find considerable assistance in pursuing the course described in this guideline, they are obviously free to pursue their own unconstrained course of action in seeking an exemption order or, indeed, they are free to prepare and submit an EA. Proposals for interim expansions that do not meet the criteria set out in Section 5 of the guideline are less likely to be exempted from the requirements of the *EA Act*.

In any exemption order request, proponents should consider using the basic components of this guideline to help them address public participation, planning and review.

When submitting information, proponents shall also consult the following Ministry publications:

- (a) "Policy and Interim Guidelines on Environmental Assessment Planning and Approvals" (1989); and
- (b) "The Ontario *Environmental Assessment Act* As It Relates To Waste Management Planning" (1992).

## 2.0 Definitions

### **Affected Parties:**

Any members of the public or public interest groups with an interest in the undertaking or the long-term solution, as well as government reviewers and the EA Advisor

### **Proponent:**

The municipality responsible for the undertaking

### **Interim Expansion:**

The use, operation, alteration, enlargement or extension of a landfill(s) for a stated period of time, beyond the limits in the current certificate of approval or provisional certificate of approval (e.g., limits typically fix the size of the site, the total volume of waste, the nature of the waste, the final contours of the site, the date upon which waste will cease to be accepted, etc.)

### **Landfill:**

Land where waste is deposited under controlled conditions, compacted into cells and covered at regular intervals

### **Undertaking:**

Interim expansion of the landfill(s); a detailed description of the proposed undertaking is used to apply for the necessary *EP Act* approval (see Section 5.3).

### **Long-Term Solution:**

The municipality's long term plan for management of the wastes for which it is responsible; this plan will require approval under the *EA Act*, either as facilities are proposed or as a total Waste Management Master (System) Plan.

## 3.0 Objectives



- (a) To ensure adequate interim disposal capacity exists for the proponent.
- (b) To allow planning of long-term solutions to proceed;
- (c) To assist the proponent in making decisions about an interim expansion;
- (d) To encourage the proponent to identify and resolve issues to the extent possible before an exemption request is submitted.
- (e) To minimize duplication of effort by all parties.
- (f) To advise on the approval process for interim expansions.

#### 4.0 Seeking the Exemption Order

- (a) The municipality will define the undertaking.
- (b) The proponents will inform ministries and agencies of their intention to seek an exemption and invite comments. Comments from ministries and agencies (see Section 5.2 for more detail) on the exemption request are to be included in the proponent's exemption request.
- (c) The proponent will submit to the Minister documentation demonstrating how the criteria set out in Section 5 of this guideline have been met.
- (d) The EA Branch acts as the co-ordinator for the review of the exemption request, upon submission to the Minister.
- (e) The Minister will recommend approval for eligible requests that:
  - (i) meet the criteria outlined in Section 5;
  - (ii) utilize the model exemption order (Attachment A); and
  - (iii) fulfil any other conditions that the Minister deems necessary.

NOTE: Section 29 of the *EA Act* provides for an order exempting an undertaking from application of the *Act*. This order is made by the Minister but he/she must have the approval of the Lieutenant Governor in Council.

Where, in the Minister's opinion, the documentation does not demonstrate clearly that the criteria have been met, public notice may be given that the exemption request may not or does not fulfil the criteria, and the request will be evaluated as an ordinary exemption order request (see "Project Screening and Application for Exemption Orders Under Section 29 of the Environmental Assessment Act" 1983) including possible referral to the Environmental Assessment Advisory Committee.

- (f) On approval of a request, an individual exemption order will be issued to the municipality stipulating certain terms and conditions. These conditions will reflect the general conditions in the Model Exemption Order; and such other conditions as local circumstances require.

- (g) No more than one exemption shall be granted under this guideline to an individual landfill in a municipality. Where interim expansion involves more than one landfill for a municipality, or where interim expansion involves more than one landfill for one proponent, it is preferable that a single request for *EA Act* exemption be submitted, consolidating all aspects of the interim expansion(s).

## 5.0 Exemption Criteria

Documentation submitted by the proponent must include confirmation of the following matters and provide details demonstrating how the criteria have been met.

### 5.1 Need for Exemption

Confirmation that interim expansion is the most reasonable alternative:

- (a) a list of alternatives that were considered and details of their investigation; and
- (b) a rationale for the selected alternative (i.e. interim expansion).

### 5.2 Consultation with Affected Parties

Confirmation that the proponent has done the following public consultation:

- (a) The public was involved in the decision on interim expansion, preferably with the aid of a public advisory committee, including representatives of adjacent or affected local residents.
- (b) Arrangements have been made to involve a public advisory/monitoring committee in monitoring the operation, closure, and post-closure care of the existing site and any pollution abatement strategy that may be required at the site.
- (c) The affected parties have been notified of the plans for interim expansion and the EA exemption request. Specifically, they have been supplied with notice of the initial consultation and the final submission of the exemption request and, offered adequate background information, including information on how the Criteria in Section 3 are being met. A copy of the notices shall be included in the exemption request.

Proponents have held at least one public forum, to which a representative of the Ministry has been invited, at which the exemption request was reviewed in light of these criteria and an adequate opportunity was provided for both oral and written comments and submissions by members of the public.

Concerns expressed by the public have been addressed in the interim expansion plans or can be adequately dealt with at the mandatory *Environmental Protection Act* hearing.

- (d) The proponent has demonstrated to the affected parties that the effect of any land acquisition or zoning amendments for the interim expansion will not affect the consideration of alternatives in the long-term waste study.

- (e) All affected ministries and agencies (see Lists "A" and "B" below) have been canvassed for comments respecting the interim expansion and the *EA Act* exemption request, and their concerns have been adequately addressed in the interim expansion plans or can be adequately dealt with at the *EP Act* hearing.

The following agencies shall be contacted by the proponent and allowed a reasonable time to comment. The Ministry will advise of any additional agencies which should be contacted.

#### 5.2.1 The "A" List

The "A" list should be provided with the background documentation produced at the outset of the consultation process and with the final exemption request submitted to the Minister.

- (a) Ministry of Environment and Energy:
  - (i) Approvals Branch which co-ordinates comments from the District/Regional Offices and other Branches;
  - (ii) Environmental Assessment Branch.
- (b) Ministry of Natural Resources.
- (c) Local Conservation Authority.
- (d) Local Medical Officer of Health.
- (e) Affected Municipalities (Municipal Clerk) within the long-term study area, and other Municipalities which may use or host the site.

#### 5.2.2 The "B" List

The "B" list should be notified in writing of the exemption request at the outset of the consultation process. An opportunity must be afforded to receive and comment on any documentation, including the final submission, to the Minister.

- (a) Ministry of Culture, Tourism and Recreation.
- (b) Ministry of Agriculture and Food.
- (c) Ministry of Health.
- (d) Canada, Department of Transport (where the site is within 4km of an airport facility, this agency should be included in the "A" list).
- (e) Affected or adjacent municipalities (Municipal Clerk) not included in the "A" list.
- (f) Local MPs and MPPs.

The exemption request submitted by the proponent to the Minister should contain a copy of all correspondence with the interested ministries/agencies. The EA Branch will contact those agencies with outstanding concerns. These comments will be considered by the Minister in determining if the exemption should be granted.

### 5.3 Limits to Growth

Confirmation that the interim expansion will respect the following limits:

- (a) No hazardous or hauled liquid industrial waste will be accepted for disposal at the site(s) except for sites to which O. Reg. 348, RRO 1990, applies.
- (b) In the case of O. Reg. 348, RRO 1990, sites only, no additional types or categories of hauled liquid industrial waste may be accepted for disposal and there will be no increase (in any period of 12 months) in the proportion of hauled liquid industrial waste to total waste accepted for disposal.
- (c) The rate of disposal, calculated on a yearly basis, for the interim expansion shall not normally exceed 110 percent of the current annual rate of disposal.
- (d) Interim expansion(s) will not continue for more than a total of five years beyond the date that the interim expansion site receives waste.
- (e) Acquisition of land or changes in zoning or land use designation for interim expansion shall not involve an area significantly larger than is necessary for the proposed interim expansion.

### 5.4 Protecting the Environment

Confirmation that interim expansion will not create potentially significant environmental effects or increase risk to public health and safety.

Any existing adverse effects shall be resolved in co-operation with the Ministry, the public advisory/monitoring committee, and other government agencies (as appropriate). A copy of the application for an *EP Act* Certificate of Approval must accompany the EA exemption request and include the following:

- (a) Basic information on the current hydrogeological environment and a prediction, based on hydrogeological principles, of the environmental effects of interim expansion, including details of any short-term hydrogeological work necessary for the purpose.
- (b) Contingency plans for remediating ongoing adverse effects, where such effects are exhibited at the existing site.
- (c) A draft program or plan for monitoring environmental effects from the site during and following the expansion and for confirming and reassessing the hydrogeological predictions.
- (d) Preliminary information on:

- (i) site development phases;
  - (ii) contingency plans; and
  - (iii) closure and post-closure.
- (e) If the proponent is subject to the *EA Act* for other activities directly related to the interim expansion (i.e. sewage works under *Ontario Water Resources Act*), information should be provided to determine if this exemption should consider these activities.

Additionally, the proponent will advise the Minister on actions that have been taken to adopt a 3Rs programme.

### 5.5 Planning for the Long-Term Solution

Confirmation that the proponents have taken the following steps towards completion of an EA for their long-term solution:

- (a) Commenced environmental assessment studies;
- (b) Finalized terms of reference or work plan acceptable to the Ministry and other agencies (as appropriate) for the preparation of an EA, details of how the pre-submission consultation and public consultation processes will be conducted;
- (c) Initiated pre-submission consultation with affected parties;
- (d) Developed a schedule for completion or project management schedule of the EA process.

### 5.6 Long-Term Solution

Confirmation that:

- (a) Interim expansion will adequately fill the gap until sufficient elements of the long-term solution are in place. The proponent will develop a contingency plan to be implemented if the long term solution is not available at the conclusion of interim expansion.  
  
The contingency plan should not consider the expansion of the interim site beyond the limit of this proposal.
- (b) The planning process, including the public involvement process, for interim expansion will be complementary to the consultation process for the long-term solution (Waste Management Master (System) Plan or EA) where appropriate.

All long-term facilities will require approval under both the *EA Act* and *EP Act*.

## 6.0 Timing of review

The Ministry will provide expeditious review of the request for exemption. This information will be provided to the Minister for his/her decision and recommendation.

NOTE: Any departure or omission from the exemption criteria may result in delay.

## 7.0 Emergency Certificate

- (a) In the event that this guideline is being followed and *EA Act* exemption seems likely, but time runs out, it is open to the Director (Approvals Branch) (*EP Act*, Section 31) to issue an emergency Certificate of Approval of very limited duration to bridge the gap while this policy is pursued and an exemption order obtained or denied.
- (b) The Director may issue such a Certificate of Approval in an emergency without a hearing. The *EP Act* provides that an emergency exists when there is "danger to health or safety" of persons; "impairment or immediate risk of impairment of the quality of the natural environment"; or "injury" or "immediate risk of injury" to property or to plant or animal life.

In issuing an emergency Certificate of Approval, the Director will impose conditions, including the duration of the emergency approval, and may impose other conditions.

- (c) The undertaking of an emergency Certificate of Approval is exempt from the *EA Act*, provided the site does not accept hazardous waste or liquid industrial waste.

**ATTACHMENT 'A'**  
**MODEL EXEMPTION ORDER**

**"Clauses and conditions may be altered, dropped, or  
added to suit the specific circumstances  
at the discretion of the Minister."**

ORDER MADE UNDER THE  
*ENVIRONMENTAL ASSESSMENT ACT*

**Exemption - the Corporation of the Municipality of**

Having received a request from The Corporation of the [municipality]  
\_\_\_\_\_ (the "proponent") that an undertaking, namely:

[be specific and indicate list of documents etc...]

the expansion, operation and closure of the existing [municipality] landfill located on Lot  
\_\_\_\_\_, Concession \_\_\_\_\_, in the [municipality] of \_\_\_\_\_, for  
the disposal of \_\_\_\_\_

be exempted from the application of the *Act* pursuant to section 29; and

Having been advised by the Proponent that if the undertaking is subject to the application of the *EA Act*, the following injury, damage or interference with the persons (and property) indicated will occur: [as appropriate]

- A. The proponent will be subject to delay and expense if required to prepare an environmental assessment for the undertaking.
- B. The proponent will be subject to unnecessary delay and expense in implementing a long-term waste management program.
- C. The proponent and residents will be without a municipal solid waste disposal facility.
- D. [ADDITIONAL INJURY OR DAMAGES AS APPROPRIATE TO THE SPECIFIC SITUATION.]

Having weighed such injury, damage, or interference against the betterment of the people of the whole or any part of Ontario by the protection, conservation and wise management in Ontario of the environment which would result from the undertaking being subject to the application of the *EA Act*;



The undersigned is of the opinion that it is in the public interest to order and orders that the undertaking is exempt from the application of the *EA Act* for the following reasons:

- A. Continued or expanded operation of the existing landfill is clearly an interim measure for which there are no other reasonable waste management alternatives which can be implemented within the necessary time frame.
- B. Alternatives have been investigated.
- C. A mandatory public hearing under Part V of the *Environmental Protection Act* for the approval of the interim expansion will be held, thereby permitting the public and government agencies the opportunity to review the proposed changes to the site.
- D. [OPTIONAL—WOULD NOT BE USED IF CONDITION 3, BELOW, IS USED] It is the intention of the Minister to issue a report under section 29 of the *Environmental Protection Act* to formalize the long- term waste management program of the municipality. [NOTE: SECTION 29 OF THE *EP Act* AUTHORIZES A MINISTER'S "REPORT", WHICH A MUNICIPALITY MUST IMPLEMENT AND WHICH MAY REQUIRE PROVISION OF SUCH WASTE MANAGEMENT ARRANGEMENTS AND FACILITIES AS THE MINISTER MAY SPECIFY.]
- E. It is the intention of the proponent that a long-term waste management program be pursued in accordance with applicable legislation and the proponent expects that sufficient elements of the program will be implemented prior to the conclusion of the exempt undertaking.

[ADDITIONAL REASONS AS APPROPRIATE TO SPECIFIC SITUATION]

This exemption is subject to the following terms and conditions:

- 1. Where any activity which otherwise would be exempt under this order is being carried out as, or is part of, an undertaking for which an environmental assessment has been accepted and approval to proceed received, the activity shall be carried out in accordance with any terms or conditions in the approval to proceed as well as the conditions of this order. [NOTE: MAKE SURE THERE ARE NO OUTSTANDING APPROVALS THAT WILL PREVENT THE CONTINUED OPERATION OF THE SITE. IF THERE ARE, ADD AN EXCEPTION TO THIS CONDITION.]
- 2. Where any activity which is the subject of this order is being carried out as another undertaking which is the subject of an exemption order under the *EA Act*, the activity exempt under this order shall be carried out in accordance with any terms or conditions in the other exemption order as well as the conditions in this order. [NOTE TO CONDITION 1. APPLIES TO OUTSTANDING EXEMPTION ORDERS AS WELL AS APPROVALS.]
- 3. [OPTIONAL—WOULD NOT BE USED IF REASON D, ABOVE, IS USED] By ["date"], the proponent will present a detailed proposal consisting of a plan and generic schedule for its long-term strategy for waste management to the Director, Environmental Assessment Branch,



and send copies to the Director, Approvals Branch, and to the Ministry of Environment and Energy Regional Director.

4. [SPECIFIC CLAUSES AS APPROPRIATE TO DEAL WITH ABATEMENT PROCEDURES, REPORTS, PLANS AND SCHEDULES AND ANY OTHER MATTERS REQUIRED BY LOCAL CONDITIONS.].
5. [IF APPROPRIATE] The Proponent shall file an annual report to the Regional Director, Ministry of Environment and Energy, outlining the proponent's progress in achieving abatement at the existing site and progress in implementing the long-term waste management program; a copy of the report shall also be submitted to the Director, Approvals Branch, Ministry of Environment and Energy. The proponent may cease filing such reports after the site has been closed to the Director's satisfaction and the Director has advised the proponent in writing that further reports are not required pursuant to this condition.
6. No waste shall be deposited at the site pursuant to this Order more than [maximum of 5] years after the date of receipt of waste in the interim expansion area.

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Minister of Environment and Energy

Approved by O.C. No. \_\_\_\_\_/9\_\_

O. Reg. No. \_\_\_\_\_/9\_\_

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Ontario Gazette \_\_\_\_\_, 199\_\_.

**MANUAL OF GUIDELINES  
PROCEDURES**

**PART F  
ABATEMENT AND APPROVALS**

**December 31, 1994**

## PART F - ABATEMENT AND APPROVALS

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- F-2 Compliance
  - F-2-1 Compliance Manual (**available from Public Information Centre as PIBS# 1879-01**)
- F-4 Procedures for Addressing Labour Disputes Affecting Pollution Abatement
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**GUIDELINE F-1**  
**(formerly 05-01)**

**Particulate Emissions at New Cement Plants**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990,*  
Section 9

**Responsible Director:**

Director, Program Development Branch

**Last Revision Date:**

April, 1994

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**1.0 REQUIREMENTS**

**2.0 GUIDELINE EMISSION LIMITS FOR PARTICULATE MATTER**

2.1 Kiln Sources

2.2 Clinker Cooler Sources

2.3 Finish Grinding Operation

2.4 All Other Plant Sources

**SYNOPSIS**

The purpose of this guideline is to establish emission limits for particulate matter emitted by new cement plants which will be enforced by the Ministry's Certificate of Approval process.

**1.0 Requirements**

The guidelines specified in Section 2 are in addition to the requirements of O. Regulation 346, Air Pollution -- General, O. Regulation 337, Ambient Air Quality Criteria, and the *Environmental Protection Act*.

**2.0 Guideline Emission Limits for Particulate Matter**

New cement plants will be required to meet the following guideline limits:

**2.1 Kiln Sources**

The emission limit is 450 g of particulate per tonne of clinker produced.

**2.2 Clinker Cooler Sources**

The emission limit is 300 g of particulate per tonne of clinker produced.

**2.3 Finish Grinding Operation**

The emission limit is 50 g of particulate per tonne of clinker consumed.

**2.4 All Other Plant Sources**

The emission limit is 100 g of particulate per tonne of clinker produced or consumed in the process, for all other sources of particulate emissions in the plant, such as storage and transfer points.

**GUIDELINE F-2**  
**(formerly 05-02)**

**Compliance**

**Legislative Authority:**

*Environmental Protection Act*  
*Ontario Water Resources Act*  
*The Pesticides Act*  
*Environmental Assessment Act*  
*Provincial Offences Act*

**Responsible Director:**

Assistant Deputy Minister, Regional Operations Division

**Last Revision Date:**

April, 1994



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**SYNOPSIS**

This guideline documents the Ministry's approach to province-wide compliance with its legislation and regulations for the protection and improvement of the environment. The guideline describes how the Ministry uses both abatement and enforcement to achieve compliance. At any stage of negotiating the abatement process, the Ministry may pursue enforcement action as: a means of addressing violations; a first step to achieving compliance; or a means to enforce its requirements.

The guideline sets out: the abatement tools available under the Ministry's legislation; the principles governing the Ministry's enforcement of Ontario's environmental laws; and the means by which the Ministry provides public notification and consultation respecting its abatement and enforcement activities.

Detailed information on this guideline, including the schedule of abatement tools and penalties, is contained in Procedure F-2-1: "Compliance Manual".

**1.0 Definitions****Abatement:**

Measures to bring about compliance, usually focused directly on the prevention, reduction and elimination of pollution

**Compliance:**

A state achieved by adhering to the legislative and regulatory requirements of the Ministry, which cover a wide range of activities, including: the prevention, reduction and elimination of pollution; the obtaining of approvals and licences; and the completion of routine paperwork and the filing of reports

**Enforcement:**

In general, enforcement entails the investigation by the staff of the Investigations and Enforcement Branch with a view to prosecution or other action to compel compliance or punish non-compliance with the legislative and regulatory requirements of the Ministry

**Occurrence Report:**

A document, prepared by Ministry staff, in which situations which may require abatement or

enforcement action are reported and recommendations for action identified

## **2.0 Identification and Evaluation of Non-Compliance**

### **2.1 Identification**

The Ministry (most often the abatement staff in the Regional Offices) will identify non-compliance situations through its own routine inspections or in response to information or complaints received.

### **2.2 Evaluation**

A situation identified as being not in compliance will be promptly evaluated to determine whether it constitutes:

- (a) an emergency or spill
- (b) an immediate danger to human life or health or to property
- (c) a potential environmental hazard to human life or health or to property, but of unknown nature or extent, or
- (d) another non-compliance situation.

### **2.3 Documentation**

All non-compliance situations which may require abatement or enforcement action shall be fully documented in an "occurrence report." Where the investigating officer is of the opinion that a violation has occurred, the original report shall be given to the Regional Supervisor of the Investigations and Enforcement Branch (IEB). The Regional Supervisor shall consider the factors contained in Sections 6.4 and 6.5, below, in deciding whether enforcement action should be taken.

## **3.0 Voluntary Abatement**

Every situation requiring abatement shall be assessed to determine whether compliance can be satisfactorily achieved through a program of voluntary abatement. Voluntary abatement may not be appropriate in the following situations:

- (a) if non-compliance may pose a significant risk to, or will have an adverse effect on, human beings or the environment;
- (b) if the pollution emitted is a serious obstacle to achieving the Ministry's air or water quality objectives;
- (c) if the person responsible has an unsatisfactory compliance record;
- (d) if the person responsible has demonstrated, and continues to demonstrate, a negative attitude to pollution control;
- (e) if the non-compliance appears to have been deliberate; or

- (f) if the non-compliance appears to have been the result of negligence.

Use of a Program Approval for voluntary abatement shall be considered only in those situations where preventive measures are needed, and not for the abatement of pollution that is actually occurring.

Procedure F-2-1: "Compliance Manual" Sections 5.2 through 5.7.2, provides guidance for: requesting voluntary abatement; documenting a request; drafting the form of a request; setting a voluntary abatement schedule; determining the action to be taken when that schedule is not adhered to; and the timing of warnings and further action.

#### **4.0 Mandatory abatement**

The Ministry shall proceed with the development and application of a Control Order in situations where a request for voluntary abatement:

- (a) is considered by the Ministry to be inappropriate;
- (b) does not meet with a positive response by the person responsible; or
- (c) does not result in satisfactory progress toward abatement.

Procedure F-2-1: "Compliance Manual", Sections 7.0 through 8.6, provides guidance for determining: the authority to proceed; the preparation of Control Documents or Program Approvals; the compliance schedule; Control Documents requiring the installation of pollution control equipment; the responsibility for emissions and discharges; financial constraints; and financial assurance.

#### **5.0 Public notification and consultation**

##### **5.1 Requirements for Public Notification**

The Director, responsible for developing and issuing a Control Document or Program Approval, shall notify and consult the public during the development of such items, and will always notify the public when such items are issued.

The minimum form of public notification shall include provision of copies of the Control Document or Program Approval to the local MPP and to the Clerks of the appropriate local municipality and upper-tier municipality. The Director shall also provide notification to the public in accordance with Section 5.1, below, any legal precedents, the contents of Ministry Guideline H-5 (formerly 16-09) entitled "Public Consultation," and the provisions of the Environmental Bill of Rights, as well as any additional notification considered appropriate.

Public notification may include the use of:

- (a) news releases,

- (b) newspaper advertisements,
- (c) door-to-door fliers,
- (d) letters to residents,
- (e) letters to the local MPP and the Clerks of the local municipality and upper-tier municipality,
- (f) individual contact with residents,
- (g) meetings with concerned group(s),
- (h) open house sessions,
- (i) public meeting(s), and/or
- (j) meetings with municipal officials.

Copies of Control Documents and Program Approvals shall be made available by the Ministry for public inspection, upon request, and in accordance with the conditions described above.

## **5.2 Determination of Extent of Public Notification**

The Director shall consider the following factors in determining the extent of, and appropriate means for, public notification and consultation:

- (a) whether pollution is actually occurring;
- (b) the nature, extent and duration of the pollution;
- (c) the area of impact of the pollution;
- (d) the extent and level of local interest and concern; and
- (e) the magnitude, probable duration and potential local impact of the abatement program.

Procedure F-2-1: "Compliance Manual", Sections 9.3 through 11.1, provides guidance for determining: public consultation on draft Control Documents or Program Approvals; notice of public meetings; notice of intent to issue or amend a Control Document; and notice of situations where an immediate danger exists.

## **6.0 Review and Enforcement**

### **6.1 Review of Control Documents**

Every Control Document shall be reviewed regularly by the Regional Director to assess compliance, as indicated by the results of regular inspection, testing and monitoring (consistent with the administrative priorities and the nature of the facility to which the Control Document applies).

Where the person responsible does not meet the requirements and conditions of a Control Document, the situation shall be documented in an occurrence report and referred to the Regional Supervisor of the IEB for consideration of enforcement action.

### **6.2 Determination of Decision to Prosecute**

Where IEB staff has carried out an investigation, a decision shall be taken, in consultation with the supervisor and giving due consideration to any additional information provided by the District Officer, whether to recommend the initiation of a prosecution.

If a decision not to proceed is made, the IEB investigator shall set out the reasons in a supplementary occurrence report, give a copy to the District Officer, and close the file.

If a decision to proceed is made, a written brief shall be submitted to the IEB supervisor. The brief shall be reviewed and forwarded to the Director of the IEB. The brief shall be reviewed and forwarded to the Director of the Legal Services Branch. The Directors of the IEB and Legal Services Branch shall discuss the matter and jointly decide whether or not to proceed.

Senior management of the Ministry shall be informed of the decision. The Minister shall not be involved in discussions relating to the laying of charges or the on-going conduct of prosecutions.

### **6.3 Ultimate Authority**

Ultimate authority respecting whether a prosecution proceeds or not shall rest with the Attorney General.

### **6.4 Principles of Enforcement**

The Ministry shall act in accordance with established principles of enforcement, which include the following:

- (a) all persons are entitled to equal protection and benefit before and under the law;
- (b) prosecution shall be the result of an informed judgment by IEB staff and the proper exercise of prosecutorial discretion by Ministry counsel;
- (c) where a decision is made not to pursue enforcement action, the reasons shall be recorded in writing in the investigative file; and
- (d) enforcement shall be administered in an even-handed, non-discriminatory and fair manner which advances and protects the public interest.

### **6.5 Informed Judgment**

At any stage in the investigation, IEB staff shall consider the following in order to reach an informed judgment as to whether enforcement action is appropriate:

- (a) the seriousness of the violation, including whether it poses a significant risk to, or will have an adverse effect on, humans, plant or animal life, property or the environment;
- (b) the seriousness of the violation in the context of the Ministry's overall regulatory scheme, including whether the pollution emitted is a serious obstacle to the Ministry's air and water quality objectives;
- (c) whether the violation appears to have been deliberate;

- (d) whether the violation appears to have been the result of negligence;
- (e) whether the violation has been repeated;
- (f) whether the offender has demonstrated, and continues to demonstrate, a negative attitude to pollution control;
- (g) whether the offender has concealed pertinent information;
- (h) whether the offender has disregarded warnings issued by the Ministry;
- (i) the offender's compliance record;
- (j) the deterrent effect of enforcement action on similar or other operations;
- (k) whether enforcement action is necessary to maintain the integrity of the regulatory process; and
- (l) whether failure to pursue enforcement action would tend to bring the law into disrepute.

While it is prudent to consider and evaluate all of the factors, above, there is no minimum number of factors that shall be met prior to recommending prosecution.

## **7.0 Prosecution**

### **7.1 Determination Whether Decision is Warranted**

Ministry counsel shall consider all relevant factors pertaining to the due administration of justice (including, but not limited to those listed in Sections 6.4 and 6.5, above) in determining whether, in their exclusive discretion, a prosecution is warranted.

### **7.2 Penalties and Tickets**

The penalty requested by the Crown Prosecutor upon conviction shall be commensurate with the seriousness of the offence, and the attitude and circumstances of the offender.

Certain violations may be prosecuted through the issuance of an Offence Notice (commonly known as a ticket) under the Provincial Offences Act. Issuance of a ticket initiates a prosecution but permits direct payment of a fine if the person responsible pleads guilty.

### **7.3 Public Notice of Prosecution**

Where charges have been laid, the Ministry shall inform the public of its enforcement activities by means of press releases.

Where Ministry staff identify a violation, as a result of a complaint, the District Officer shall keep the complainant informed as to the status of the matter, consistent with investigative and prosecutorial considerations.

**PROCEDURE F-4**  
(formerly 05-04)

**Procedures for Addressing Labour Disputes  
Affecting Pollution Abatement**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990,*  
Section 6  
*Ontario Water Resources Act, Section 30*

**Responsible Director:**

Assistant Deputy Minister, Regional Operations Division

**Last Revision Date:**

April, 1994



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**SYNOPSIS**

The primary purpose of this guideline is to prevent degradation of the natural environment when labour disputes interfere with municipal or industrial pollution abatement programs. This guideline is applicable in situations involving the construction or operation of municipal or industrial pollution abatement facilities.

**1.0 Introduction**

This document describes the guidelines and procedures to be followed by Ministry staff to avoid degradation of the environment when labour disputes interfere with municipal or industrial pollution abatement programs.

**2.0 Municipal -- Operation of Water and Sewage Facilities**

To ensure satisfactory operation of facilities during labour disputes, municipalities shall develop contingency plans which take into account assistance available from other municipalities.

**3.0 Municipal -- Construction of Water and Sewage Facilities**

Where delay in the construction of facilities due to labour disputes prove critical to the environment, the Ministry shall enforce its environmental legislation in cases where a municipality has not taken all reasonable steps to expedite construction.

**4.0 Industrial -- Operation of Process and Pollution Abatement Facilities****4.1 Acceptable Emission Levels**

When a company chooses to continue operations during a labour dispute, the Ministry shall require the control of emissions at normal levels.

**4.2 Ministry Enforcement**

When a company chooses to continue operations during a labour dispute, the Ministry shall do all things necessary, including the crossing of picket lines, to ensure compliance with environmental legislation.

**5.0 Industrial -- Installation of Abatement Facilities****5.1 Installation Schedule**

Installation of abatement facilities shall proceed according to schedule unless the Director is satisfied, on receipt of a report submitted by the company, that the company cannot reasonably overcome delays caused by the dispute.

## **5.2 Short-Term Extensions**

Where such delay is inevitable, the Ministry may extend schedules on a day-to-day basis or make such other reasonable extensions as circumstances indicate, including amendments to Control Orders and other enforcement measures.

### **5.2.1 "force majeure"**

In keeping with Section 5.2, new or amended Control Orders and similar documents shall include the following "force majeure" clause which is open for discussion at relevant public meetings:

"In the event any party to this Order is, in the opinion of the Director, rendered unable to perform or comply with any obligations herein because of:

- (a) natural phenomena of an exceptional, inevitable, or irresistible nature, or insurrections;
- (b) strikes, lock-outs or other industrial disturbances;
- (c) inability to obtain materials or equipment for reasons beyond the control of the company; or
- (d) any other cause, whether similar to or different from the foregoing, beyond the reasonable control of the parties,

The obligations hereof, as they are affected by (a), (b), (c) or (d) above, shall be adjusted in a manner defined by the Director. To obtain such an adjustment, the party shall notify the Director immediately of any of the above occurrences, providing details that demonstrate that no practical alternatives are feasible in order to meet the compliance dates in question."

**GUIDELINE F-5**  
(formerly 08-01)

**Levels of Treatment for Municipal and Private  
Sewage Treatment Works Discharging to  
Surface Waters**

**Legislative Authority:**

*Ontario Water Resources Act, RSO 1990,*  
Section 53

**Responsible Director:**

Director, Program Development Branch

**Last Revision Date:**

April, 1994

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- 8.0 BY-PASSING AND COMBINED SEWER OVERFLOWS
- 9.0 SAMPLING AND ANALYSIS REQUIREMENTS

## SYNOPSIS

The primary purpose of this guideline is to describe the levels of treatment required at municipal and private sewage treatment works discharging to surface waters. The measures described in this guideline are in accord with Guideline B-1: "Water Management -- Guidelines and Procedures of the Ministry of Environment and Energy (Guideline Summary)". Procedures supporting this guideline are as follows:

- (a) Procedure F-5-1: "Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".
- (b) Procedure F-5-2: "Relaxation of Normal Level of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".
- (c) Procedure F-5-3: "Derivation of Sewage Treatment Works Effluent Requirements for the Incorporation of Effluent Requirements into Certificates of Approval for New or Expanded Sewage Treatment Works".
- (d) Procedure F-5-4: "Effluent Disinfection Requirements for Sewage Works Discharging to Surface Waters".

### 1.0 Ministry requirements for municipal & private sewage works

The Ministry requires that municipal and private sewage treatment works, outfall structures and emergency overflow facilities be located, designed, constructed and operated so as to minimize pollution of receiving waters and interference with water uses.

### 2.0 Normal Level of Treatment

The normal level of treatment required for municipal and private sewage treatment works discharging to surface waters is secondary treatment, or equivalent. Hereinafter, normal level of treatment shall mean secondary treatment or equivalent.

#### 2.1 Relaxation of Normal Level of Treatment

A relaxation of the normal level of treatment will only be allowed on a case-by-case basis, in an emergency situation, and in accordance with the Ministry procedures listed below:

- (a) Procedure F-5-1: "Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".
- (b) Procedure F-5-2: "Relaxation of Normal Level of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

Under no circumstances will the level of treatment required be less than primary treatment.

## **2.2 Higher than Normal Treatment**

Higher levels of treatment than secondary, up to and including "no discharge to surface waters" may be imposed in accordance with Procedure F-5-1.

Higher than normal level of treatment shall be justified by appropriate site-specific assessments of the receiving water.

## **3.0 Review of Treatment Levels**

The level of treatment required for individual sewage treatment works shall be subject to periodic review by Regional Offices as necessary, especially when expansions of sewage treatment works are contemplated.

More stringent treatment requirements may be imposed as determined by site-specific assessment of the receiving water.

## **4.0 Effluent Requirements**

For discharges by new or expanded sewage treatment works the level of treatment shall be derived by applying the measures in Sections 2.0, 2.1 and 2.2 above. Effluent requirements, including both waste loadings and concentrations shall be incorporated into Certificates of Approval.

For existing sewage treatment works, the level of treatment required shall be subject to review and amendment. Effluent requirements shall be assigned on a site-specific basis.

These effluent requirements shall be derived in accordance with Procedure F-5-3.

## **5.0 Effluent Requirements Compliance Assessment and Enforcement**

A comprehensive monitoring program, including regular sampling of sewage works effluents and recording of flows, shall be undertaken by the sewage works operating authority. This will permit assessment of compliance with effluent requirements and, if necessary, initiation of appropriate remedial measures for works not in compliance.

The compliance assessment and enforcement actions shall be carried out in accordance with Guideline F-10 and F-2 respectively and Procedure F-5-3.

## **6.0 Phosphorus Removal Requirements**

Phosphorus removal is required for certain sewage treatment works discharging to a number of water bodies in the Province. Refer to Guideline F-8: "Provision and Operation of Phosphorus Removal Facilities at Municipal, Institutional and Private Sewage Treatment Works" for details.

## **7.0 Effluent Disinfection Requirements**

Effluent disinfection requirements are contained in Procedure F-5-4: "Effluent Disinfection Requirements for Sewage Works Discharging to Surface Waters".

## **8.0 By-passing and Combined Sewer Overflows**

Minimizing the by-passing of sewage and combined sewer overflows is required in accordance with Procedure F-5-1.

## **9.0 Sampling and Analysis Requirements**

The Ministry's sampling and analysis requirements for municipal and private sewage treatment works are contained in Guideline F-10.



**PROCEDURE F-5-1**  
**(formerly referenced by 08-01)**

**Determination of Treatment Requirements for Municipal and  
Private Sewage Treatment Works Discharging to Surface  
Waters**

## PROCEDURE F-5-1

DETERMINATION OF TREATMENT REQUIREMENTS FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS DISCHARGING TO SURFACE WATERS

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**1.0 Rationale**

Effluent requirements within the Province of Ontario are determined under the provisions of Procedure B-1-1: "Water Management-- Guidelines and Procedures of the Ministry of Environment and Energy (The "Blue Book")". In accordance with the procedures outlined in that publication, effluent requirements are established on a case-by-case basis considering the characteristics of the receiving water body, as well as Federal and Provincial effluent regulations and procedures, where applicable.

For discharges from municipal and private sewage treatment works, Provincial jurisdiction applies, except for Federal facilities. Federal facilities are covered by the effluent guidelines, "Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments". Normally, the Federal government consults with the Province to ensure that the effluent from Federal plants will be consistent with Provincial policies.

Guideline F-5 takes the approach that all sewage treatment works shall provide secondary treatment or equivalent as the "normal" level of treatment, unless individual receiving water assessment studies indicate the need for higher levels of treatment. In setting the "normal" level of treatment as secondary, various factors were considered, including: minimization of adverse health-related and environmental effects, aesthetic nuisance and toxic effects of effluent discharges from heavily populated areas to rivers and streams or to littoral zones of lakes where intensive water use and re-use occur; minimization of potential interference of effluent discharges with other water uses; possibility of more stringent future phosphorus removal requirements and the capability of secondary sewage treatment processes to be upgraded to meet such requirements; relatively low additional cost and significant additional benefits of secondary treatment over primary treatment with respect to removal of conventional contaminants and, potentially, the removal of hazardous trace organics.

**2.0 Definitions****2.1 Ministry**

For purposes of Guideline F-5 and its procedures, the term Ministry is defined as the Ministry of Environment and Energy, unless otherwise stated.

**2.2 Municipal and Private Sewage Treatment Works**

The term "municipal and private sewage treatment works", for purposes of Guideline F-5 and its associated procedures, includes works owned by municipalities,

private groups or companies, institutions or government agencies, treating either strictly domestic, or combinations of domestic, commercial and industrial waste, which are owned by municipalities, private groups or companies, institutions or government agencies, which discharge their effluent to surface waters, but does not include sewage works exempted from the requirement of Section 53 of the OWR Act (R.S.O. 1990).

### **2.3 Secondary Treatment, or Equivalent**

Secondary treatment, or equivalent, may be that provided by biological processes including the activated sludge variations or lagoon systems, physical-chemical, or combinations of these processes producing an effluent quality as stated in Table 1.

Sewage treatment works which provide only primary settling of solids and the addition of chemicals primarily for the purpose of improving the removal of total phosphorus and/or solids are not considered as secondary treatment, or equivalent for purposes of Guideline F-5.

### **2.4 Five Day Biochemical Oxygen Demand "BOD<sub>5</sub>"**

For purposes of Guideline F-5, BOD<sub>5</sub> is defined as carbonaceous BOD<sub>5</sub>. It is a measure of the oxygen utilized over a 5 day period for the bio-chemical degradation of organic materials and the oxygen utilized to oxidize such inorganic materials as sulfides and ferrous ion.

## **3.0 Guidelines**

In selecting the level of treatment required for municipal and private sewage treatment works discharging to surface waters, the following shall be adhered to:

### **3.1 Receiving Water Assessment**

Receiving water assessments must be performed in all cases. Technical guidance for water assessment studies may be obtained from Regional staff or staff of the Science and Technology Branch. The carrying out of receiving water assessment studies and the interpretation of results will be the responsibility of the proponent of any new sewage treatment works or of any works undergoing expansion. Any relevant data in the possession of the Ministry will, upon request, be made available for such assessments. In certain cases, the necessary receiving water assessment may have already been carried out by the Ministry and, if so, all pertinent information will be made available to the proponent. If not the Ministry may at its discretion agree to do such assessments, or assist in their completion.

### **3.2 Higher Than Normal Treatment**

If the effluent requirement determined by the receiving water assessment is more stringent than the "normal" level of treatment as required in the Provincial

guideline, then the treatment requirement derived from the assessment will be imposed.

Since BOD<sub>5</sub> does not include the oxygen demand due to the bio-chemical oxidation of total ammonia, for those sewage treatment works discharging into receivers where nitrogenous oxygen demand is important, a total ammonia nitrogen " $(\text{NH}_3 + \text{NH}_4^+) - \text{N}$ " and/or total kjeldahl nitrogen limits should be derived and incorporated into the works' Certificates of Approval.

### 3.3 Sewage Bypass From Nominally Separate Sewer Systems

Bypassing of raw sewage and primary effluent from nominally separate sewerage systems will not be allowed except in emergency conditions.

In accordance with Section 15 of the *Environmental Protection Act (R.S.O. 1990)*, and with Section 30(2) *OWR Act (R.S.O. 1990)*, bypass incidence shall be recorded and the appropriate agencies (i.e. MOEE Region and/or Spills Action Centre, and Medical Officer of Health) notified. In addition, the measured or estimated volume, duration and reasons for bypassing shall be documented and reported to the MOEE Regional office.

For new works, emergency bypass facilities which permit by-passing from sewers, sewage pumping stations and sewage treatment works of sewage not satisfying the prescribed treatment requirements, must receive approval as required by Section 24 to 53 of the *OWR Act*. It is understood, however, that the approval required is an integral part of normal review procedures for sewers, pumping stations or treatment works in question and that a separate approval is not required. These emergency bypasses will be permitted only to provide protection from basement flooding, to prevent damage to equipment at treatment works or pumping facilities or to prevent treatment process wash-out.

To reduce the frequency and volume of sewage discharged from emergency by-passes to an acceptable minimum, measures shall be taken to provide adequate sewer and pumping station capacity, stand-by equipment, stand-by power, reserve storage capacity in sewers, and/or at treatment facilities and adequate capacity in sewage treatment works. For recommended design criteria, reference should be made to "**Guidelines for the Design of Sewage Treatment Works**" and to "**Guidelines for the Provision of Equipment to Handle Emergency Conditions in New Sewage Works**".

Where existing sewer systems are found to experience excessive infiltration/inflow problems, which result in unacceptable frequencies or quantities of raw sewage and/or primary effluent by-passing, and where the above measures alone are either impractical or uneconomical to reduce the by-passing to acceptable levels, staged programs should be developed for the ultimate containment of these flows by a combination of the above measures and the reduction of infiltration/inflow to the sewer systems. These programs should outline the approaches to solving the problems along with the anticipated timing of when the changes to the sewer systems could be made.

### 3.4 Bypassing from Combined Sewer Systems

It is the goal of the Ministry to abate all discharges of untreated sanitary wastewater. With combined sewer systems, it is realized that a certain degree of overflowing will occur for some period both during and shortly after severe storm events and spring melts. All municipalities serviced by combined sewerage should however prepare a staged program leading towards the ultimate goal of total containment for treatment of all sewage flows. This program should outline the sewerage works required along with their anticipated timing of implementation. Details of requirements are discussed in the Ministry Guideline (draft, copy enclosed) dealing with by-passing and combined sewage overflows. New or expanded sewage treatment works servicing sewer systems containing combined sewer areas should be designed taking into account the problem of combined sewage overflows.

### 3.5 Excess Primary Treatment Capacity

Where reduction and/or containment followed by secondary treatment of extraneous wet weather flows is impractical or uneconomical, secondary/tertiary sewage treatment works may be designed with excess primary treatment capacity to accommodate the extraneous wet weather peak flows.

For the present, effluent criteria need not be specified for excess primary effluent discharged in wet weather. Consequently, no compliance assessment program is currently necessary, although the frequencies of occurrence, volume and duration should be measured or estimated, recorded and reported to the Ministry Regional office as secondary by-pass. The Region in consultation with Program Development Branch, in specific instances may require both effluent criteria and a compliance assessment program for excess primary effluent discharges. The details of requirements including the means of assessing non-compliance will be specified by the Ministry for such cases.

### 3.6 Non-compliance of Existing Sewerage Systems

Existing municipal and private sewerage works not complying with Guideline F-5 shall be upgraded to meet the requirement of this guideline as soon as possible. It will be the responsibility of the Ministry's Regions to develop upgrading schedules taking into account local, national and international obligations.

### 3.7 Effluent Design Objectives and Effluent Guidelines

Table 1 is provided to assist in selection of sewage treatment processes to meet specific effluent quality criteria. Two sets of effluent criteria are given in Table 1 - Effluent Design Objectives and Effluent Guidelines. The Effluent Design Objectives are those levels of performance which can be achieved by treatment processes treating normal strength municipal sewage under optimum conditions. The Effluent Guidelines criteria were developed based upon the effluent quality data of sewage treatment works in operation in Ontario in 1982 and earlier. Sewage treatment works designed in accordance with the Ministry "**Guidelines for the Design of Sewage Treatment Works**" should be able to produce annual average effluent quality approximately

equal to the Effluent Design Objectives, but not to exceed the Effluent Guidelines criteria.

There will be some circumstances, when sewage treatment works will be required to achieve somewhat better quality than the Effluent Guidelines criteria in order to satisfy effluent requirements determined from receiving water assessment studies. For example, a situation could occur where the receiving water assessment study for a proposed plant indicates that the effluent BOD<sub>5</sub> should be 17 mg/L and the suspended solids should be 25 mg/L. Plant performance better than the Effluent Guidelines criteria (25 mg/L BOD<sub>5</sub>) for conventional activated sludge plants will, therefore, be necessary, but the effluent requirement is still within the possible range for conventional activated sludge plants, since under optimum conditions such a plant should be capable of meeting the Effluent Design Objectives criteria (15 mg/L BOD<sub>5</sub>). In this circumstance, a conventional activated sludge plant could be approved with effluent BOD<sub>5</sub> and suspended solids requirements of 17 and 25 mg/L. Reference should be made to Procedure F-5-3: "Derivation of Sewage Treatment Works Effluent Requirements for the Incorporation of Effluent Requirements into Certificates of Approval for New or Expanded Sewage Treatment Works" for the parameters requiring documentation and the procedures required to determine compliance with the effluent requirements.

While many primary sewage treatment plants are being upgraded to provide secondary treatment or equivalent, some primary plants will remain in service for a few more years. In the interim, effluent guidelines for primary treatment without total phosphorus removal shall remain as 30% and 50% removal of BOD<sub>5</sub> and suspended solids, respectively; the guidelines for primary treatment with total phosphorus removal shall remain as 50% and 70% removal of BOD<sub>5</sub> and suspended solids, respectively.

### **3.9 Industrial Wastes**

In selecting a sewage treatment process, consideration must be given to industrial waste inputs to ensure that the sewage treatment process will be compatible with the waste requiring treatment. Pre-treatment of industrial wastes may be necessary. In all cases, sewer use by-laws should be in effect and under enforcement to control the wastes being discharged to the sewer system by industries.

### **3.10 Sewage From Pressure or Vacuum Sewer Systems**

Special consideration may be required in selecting and designing a sewage treatment process for municipalities serviced either wholly or extensively by pressure or vacuum sewers. The sewage quality tends to be more concentrated in such systems since it is unlikely to be affected by inflow/infiltration.

Table 1      Effluent Criteria

Treatment Level and Processes	Effluent Design Objectives <sup>1</sup> (mg/L)				Effluent Guidelines <sup>2</sup> (mg/L)	
	BOD <sub>5</sub>	SS	TP	(NH <sub>3</sub> +NH <sub>4</sub> <sup>+</sup> )-N	BOD <sub>5</sub>	SS
<b>SECONDARY TREATMENT OR EQUIVALENT</b>						
Conventional Activated Sludge without TP removal	15	15	-	-	25	25
Conventional Activated Sludge with TP removal	15	15	1.0	-	25	25
Contact Stabilization without TP removal	20	20	-	-	25	25
Contact Stabilization with TP removal	20	20	1.0	-	25	25
Extended Aeration without TP removal	15	15	-	-	25	25
Extended Aeration with TP removal	15	15	1.0	-	25	25
Continuous Discharge Lagoon without TP removal	25	30	-	-	30	40
Continuous Discharge Lagoon with TP removal	25	30	1.0	-	30	40
Seasonal Retention Lagoon without TP removal	25	30	-	-	30	40
Seasonal Lagoon with TP removal by batch chemical dosage	15	20	0.5 to 1.0	-	25	25

to be continued



Table 1 Effluent Criteria

(Continued)

Treatment Level and Processes	Effluent Design Objectives <sup>1</sup> (mg/L)				Effluent Guidelines <sup>2</sup> (mg/L)	
	BOD <sub>5</sub>	SS	TP	(NH <sub>3</sub> +NH <sub>4</sub> <sup>+</sup> )-N	BOD <sub>5</sub>	SS
<b>SECONDARY TREATMENT OR EQUIVALENT</b>						
Seasonal Retention Lagoon with TP removal by continuous chemical dosage	25	30	1.0	-	30	40
Physical-chemical Treatment	20	20	1.0	-	25	25
<b>ADVANCED TREATMENT</b>						
Conventional Activated Sludge with TP removal and filtration	10	5	0.3	-	--- <sup>3</sup>	--- <sup>3</sup>
Conventional Activated Sludge with nitrification	15	15	-	<1.0 <sup>4</sup>	--- <sup>3</sup>	--- <sup>3</sup>
Extended Aeration with TP removal and filtration	5	5	0.3	-	--- <sup>3</sup>	--- <sup>3</sup>

## Notes:

<sup>1</sup> Expected effluent quality under optimum conditions when treating raw sewage with BOD<sub>5</sub>=170 mg/L, soluble BOD<sub>5</sub>=50%, SS=200 mg/L, TP=7 mg/L, (NH<sub>3</sub>+NH<sub>4</sub>)-N= 20 mg/L.

<sup>2</sup> Criteria which the average annual effluent quality should not exceed (based upon performance data collected in 1983 of sewage treatment works in operation in Ontario).

<sup>3</sup> Effluent quality and permissible periods of discharge will be stipulated as a result of receiving water assessment studies. Where effluent BOD<sub>5</sub> and suspended solids concentrations are not found to be critical, then Effluent Guideline BOD<sub>5</sub> and suspended solids concentrations of 25 and 25 mg/L should be used.

<sup>4</sup> Expected warm weather effluent concentration.



**PROCEDURE F-5-2**  
**(formerly referenced by 08-01)**

**Relaxation of Normal Level of Treatment for Municipal  
and Private Sewage Works Discharging to Surface Waters**

## PROCEDURE F-5-2

### RELAXATION OF NORMAL LEVEL OF TREATMENT FOR MUNICIPAL AND PRIVATE SEWAGE WORKS DISCHARGING TO SURFACE WATERS

#### 1.0 General

On a case-by-case basis, relaxation of the "normal" level of treatment down to a minimum of primary treatment will be permitted, but only after receiving water assessment results together with other environmental, social and economic factors have been considered and the relaxation justified.

Before a relaxation of the "normal" level of treatment will be formally considered, an "Application for the Approval of Sewage Works" shall be completed and submitted for evaluation along with the necessary supporting documentation. The owner, in the case of extensions to existing sewage treatment works, or the proponent, in the case of proposed new sewage treatment works, or the authorized agent of the owner/proponent (e.g. consultant), will complete and submit the application form. **Persons proposing to make application for relaxation of the "normal" treatment requirements are advised to make their intentions known well in advance of the normal submission.** This will ensure that the proponent is proceeding in the proper direction and may reduce problems and subsequent delays that may result after submission of the application for approval.

#### 2.0 Application Procedures

As noted above, the proponent should consult with the Region prior to making formal application. Pre-consultation provides the Region an opportunity to advise the proponent on the desirability and particulars of seeking a relaxation.

In the event the proponent wishes to proceed with application, the following should be adhered to:

1. Copies of the form "Application for the Approval of Sewage Works" should be obtained from the District or Regional Office of the Ministry.
2. The application form should be filled out, with the assistance of the local Ministry District Officer, if required.
3. The completed form (duplicate) should be signed and submitted along with the requested supporting documentation to the Director of the appropriate Regional Office of the Ministry.
4. The Regional staff will review the application in consultation with the Environmental Approvals and Project Engineering and Program Development Branch to ensure Province-wide consistency in granting relaxations of the "normal" level of treatment

requirement. If deemed advisable by the Regional Office, the application may be reviewed by other interested parties such as the Ministry of Natural Resources, and the local Medical Officer of Health. The Regional Director will make a recommendation on the request for relaxation and forward it along with one copy of the application form and supporting information to the Director of Environmental Approvals and Project Engineering Branch for final review and processing.

5. If the application for relaxation is recommended for approval by the Regional Director and has the concurrence of the Director of Program Development Branch, technical aspects of the proposal will be reviewed and if acceptable, a Certificate of Approval will be issued under Section 24 of the *OWR Act* along with any necessary conditions, reasons for conditions and notices.
6. If the application for relaxation is not recommended for approval by the Regional Director or not approved by the Director of the Environmental Approvals and Project Engineering Branch, the applicant will be issued with a notice of refusal and reasons for refusal by the Director of Environmental Approvals and Project Engineering Branch.

The information which must accompany a request for a relaxation of the "normal" level of treatment requirement is discussed in the following sections.

### **3.0 Supporting Documentation for Relaxation of Normal Levels of Treatment**

#### **3.1 General Considerations**

The information requested below must be received in addition to the information requested in the latest version of the Ministry document "**A Guide on Applying for the Approval of Sewage Works**". If this application for relaxation is being made before final plans and specifications are prepared, as will normally be the case, the applicant should indicate that "conditional" approval is being requested and supply the information required for such an approval. If final plans and specifications are prepared, the applicant may request final approval by indicating so on the application form and by supplying the necessary information. Experimental approval will not generally be considered for applications for relaxation of the "normal" level of treatment.

The onus of justifying a relaxation of treatment requirement rests with the proponent. The undertaking of the necessary economic, social and environmental studies and the interpretation of the studies' findings will be the proponent's responsibility.

The following outlines the supplementary information which must be provided with an application for a relaxation of the "normal" level of treatment requirements.

#### **3.2 Supplementary Information Requirements**

##### **3.2.1 Economic Impact**

There should be a substantial economic benefit afforded by the use of a lower

level of treatment. The proponent must justify that there is sufficient difference in cost between the "normal" level of treatment and the proposed alternative. The current and future utility rates relating to sewage treatment for the "normal" level of treatment and the proposed alternative. The current and future utility rates relating to sewage treatment for the "normal" level of treatment and the proposed treatment should be identified.

### 3.2.2 Other Impacts

The proponent should also indicate potential reduction of social impacts (e.g. reduced community disruption) or environmental impacts that result from relaxation of treatment requirements.

### 3.2.3 Receiving Water Assessment Studies

#### 1) Waste Loadings

The sources of wastewater and expected influent and effluent quality and flows should be identified. Actual sampling data should be provided as available and supplemented as necessary with data from similar facilities operating elsewhere. The possibility of sewage containing high strength organic wastes, heavy metals or toxic materials not easily removed by primary treatment, must be considered. Technical advice and guidance can be obtained, upon request, from the Ministry's Regional Offices, Program Development Branch and Laboratory Services Branch.

#### 2) Receiving Water Characteristics

The characteristics of the receiving waters shall be considered in the assessment, including the following details:

- a) type of outfall and its location in the receiving water body, including hydraulic design details (such as pipe diameter, port size and spacing, etc.);
- b) initial mixing and dilution of effluent with the receiving water;
- c) mixing zone boundary;
- d) assessment studies beyond the mixing zone boundary;
- e) for river discharges, consideration should be given to background water quality, temperature and flow variations, and downstream water uses;
- f) for lake discharges, consideration shall be given to the outfall depth, currents, thermal stratification, bottom characteristics, and nearby water uses.

The foregoing receiving water assessment procedures must be technically sound and

acceptable to the Ministry. Technical advice and guidance on procedures will be provided on request by the Ministry's Program Development Branch, or Regional Offices' Technical Support Sections, or from published procedures such as, "Stream Water Quality Assessment Procedures Manual", March 1980, Ministry of the Environment, Program Development Branch.

In certain cases, receiving water assessment studies may have been recently carried out by the Ministry and, if so, all pertinent information will be made available to the proponent.

#### **3.2.4 Compliance with Objectives**

Based upon the receiving water assessment, the resultant water quality in the mixing zone and beyond should be defined as affected by the processes of dilution, assimilation, dispersion and transport. The techniques or models used to define the resultant water quality should be identified in the proposal. This quality should be consistent with the requirements outlined in the Ministry Procedure B-1-1 "Water Management -- Guidelines and Procedures of the Ministry of Environment and Energy", the "Canada - Ontario Agreement on Great Lakes Water Quality" and applicable Ontario guidelines. Only if these requirements are satisfied, can recommendations be made to accept less than the "normal" level of treatment.

**PROCEDURE F-5-3**  
(formerly referenced by 08-01)

**Derivation of Sewage Treatment Works Effluent Requirements  
for the Incorporation of Effluent Requirements into  
Certificates of Approval for New or Expanded Sewage  
Treatment Works**

**PROCEDURE F-5-3****DERIVATION OF SEWAGE TREATMENT WORKS EFFLUENT REQUIREMENTS  
FOR THE INCORPORATION OF EFFLUENT REQUIREMENTS INTO  
CERTIFICATES OF APPROVAL FOR NEW OR EXPANDED SEWAGE  
TREATMENT WORKS****1.0 General**

These procedures provide information on Regional and Branch activities, responsibilities and procedures to be followed to incorporate effluent requirements into Certificates of Approval for sewage treatment works.

The requirement to include effluent parameter concentrations and loadings in Certificates of Approval for proposed sewage treatment works is outlined in Policy 3 - Effluent Requirements in Procedure B-1-1 "Water Management -- Guidelines and Procedures of the Ministry of Environment and Energy". The legislative authority to issue Certificates of Approval with conditions is contained in Section 24 to 53 of the *Ontario Water Resources Act*. Conditional approval certificates must be accompanied by a listing of the reasons for the imposition of conditions and an outline of the appeal procedures should the applicant choose to appeal the conditions.

**2.0 Administration**

The administrative arrangements and areas of responsibility for incorporation of effluent requirements in Certificates of Approval are shown in Table 1.

The Regional Director's recommendations with respect to effluent requirements will be routed to the Approvals Branch for all applications.

If necessary, discussions regarding the effluent requirements may take place between the Regions and the Approvals Branch. The Program Development Branch may also be consulted for guideline and technical advice, when necessary.

The Regions will have the responsibility of auditing plant compliance. Effluent requirements will be entered into a computer system. This computer system will automatically assess the plant's compliance against the specified effluent requirements, as well as the recording of the planned remedial measures for plants out of compliance.

The major activities of the program and the lead Ministry group(s) having the overall responsibility for each activity will be as follows:

- a) oversee and expedite the implementation of the program - Regions and Approvals Branch;
- b) establish effluent levels and special effluent sampling and analysis requirements - Regions;
- c) deal with all special and borderline cases - Regions, Approvals and Program

Development Branches;

- d) issue Certificates of Approval with necessary conditions and reasons for conditions - Approvals Branch;
- e) provide coordination role in the case of appeals to effluent requirements of Certificates of Approval - Legal Services Branch;
- f) for audit purposes, keep accurate records;
- g) propose action plans for plants out of compliance - Regions;
- h) provide periodic review and prepare status reports on the progress of the program to Senior Management of the Ministry - Regions;
- i) where necessary and based on experience gained during implementation as well as study results (e.g. hazardous substance identification and removal in sewage treatment works studies, etc.), modify and refine the procedural guidelines, including specifications of additional parameters - Program Development, Approvals, and Science and Technology Branches and the Regions.

### 3.0 Determination of Effluent Parameters and Numbers to be used in Certificates of Approval (New Facilities, Expansions, Modifications)

Both effluent loading and effluent concentration limits are to be incorporated into Certificates of Approval for new, expansions to, or modifications to sewage treatment works. In special cases, such as fill-and-draw lagoons, other requirements such as acceptable time and rate of effluent discharge may also be stipulated as deemed necessary.

For any particular effluent parameter, the most stringent of the effluent concentrations derived from either water assessment studies, or Effluent Guidelines as given in Table 1 of Procedure F-5-1: "**Determination of Treatment Requirements For Municipal and Private Sewage Treatment Works Discharging to Surface Waters**" or other Ministry Guidelines (e.g. phosphorus removal) will normally be incorporated into Certificates of Approval. The effluent loading will be derived based on the above effluent concentration multiplied by the design average daily flow. For fill-and-draw lagoons, length of discharge period will be required.

The effluent parameters which should be documented in the Certificates of Approval will be those parameters identified by water assessment studies, Effluent Guidelines, and Ministry policies. For instance, if a water assessment study finds ammonia concentrations to be critical and, in addition, Ministry policy requires phosphorus removal, then ammonia and phosphorus along with the Effluent Guidelines BOD<sub>5</sub> and suspended solids effluent loading and concentration numbers should go into the Certificate of Approval. In certain circumstances, one or more effluent parameter requirements will be controlling. For instance, in the above example, if the phosphorus effluent requirement were set at 0.3 mg/l, only the ammonia and phosphorus loading and concentration numbers would have to be specified. Experience has shown that the Effluent Guidelines BOD<sub>5</sub> and suspended solids requirements will have been satisfied if the 0.3 mg/l phosphorus level is reached. Where necessary, timing



constraints on effluent discharges shall also be stipulated.

For new facilities proposed for non-restrictive receivers, Effluent Guidelines BOD<sub>5</sub> and suspended solids effluent loading and concentration numbers should go into the Certificate of Approval. Phosphorus effluent numbers will be put in where applicable. As other guideline initiatives are finalized, additional effluent numbers may be required.

#### **4.0 Existing Sewage Treatment Works**

If existing sewage treatment works are found to be unable to comply with the assigned effluent requirements established, Regional staff should develop upgrading schedules with the operating authorities to allow the effluent requirements to be satisfied as soon as possible.

#### **5.0 Compliance Assessment and Enforcement**

Compliance assessment and enforcement of effluent limits will be carried out in accordance with the Ministry's Compliance Procedure F-2-1.

Table 1      Administrative Arrangements and Areas of Responsibility For Incorporation Of Effluent Requirements into Certificates of Approval

### **REGIONAL OPERATIONS DIVISION**

- reviews water assessment studies, Effluent Guidelines in Ministry Guideline F-5 and other pertinent guidelines and background information to establish effluent quality parameters and concentration and/or loading limits
- reviews need for special effluent sampling and analysis requirements
- reviews treatment process and effluent requirements
- recommends effluent sampling and analysis requirements
- reviews reasons for conditions in Certificate of Approval.
- audits plant performance as to compliance with effluent requirements in Certificate of Approval

### **APPROVALS BRANCH**

- reviews application and requests changes in design, if necessary
- recommends application for approval with necessary conditions and reasons
- director approves application with conditions

**PROCEDURE F-5-4**  
(formerly referenced by 08-01)

**Effluent Disinfection Requirements for Sewage Works  
Discharging to Surface Waters**

**PROCEDURE F-5-4****EFFLUENT DISINFECTION REQUIREMENTS FOR SEWAGE WORKS  
DISCHARGING TO SURFACE WATERS**

*Ontario Water Resources Act (Section 17 and 24 - R.S.O. 1980)*

This procedure describes the requirements for the provision and operation of sewage works effluent disinfection facilities. The measures described in this and related procedures are to ensure both public health and aquatic life are adequately protected from sewage works discharges in a most cost-effective manner.

This procedure is written in support of Guideline F-5 of the **Manual of Guidelines and Procedures** which deals with the levels of treatment required for sewage works in Ontario. Except where exempted by the Guideline, disinfection requirements apply to all municipal, institutional and private communal sewage works discharging to surface waters and requiring Ministry approval under Section 24 of the *OWR Act*, RSO 1980.

**RATIONALE**

Sewage works discharges to surface waters often constitute a significant input source of pathogenic micro-organisms to the receiving waters. Such discharges represent a potential menace to water supplies, to recreational and agricultural uses of receiving waters, and to various other water related activities. Inactivation of pathogenic micro-organisms at sewage works can significantly reduce the dissemination of pathogens to the water environment and break the potential cycles of pathogen-associated infections at the source.

**GUIDELINE F-6**  
**(formerly 08-02)**

**Sewer and Watermain Installation:  
Separation Distance Requirements**

**Legislative Authority:**

*Ontario Water Resources Act*

**Responsible Director:**

Director, Approvals Branch

**Last Revision Date:**

April, 1994

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- 1.0 DEFINITION
- 2.0 RATIONALE
- 3.0 HAZARDS DUE TO CONTAMINATION
- 4.0 PREVENTION OF HEALTH HAZARDS

**SYNOPSIS**

The primary purpose of this guideline is to reduce/minimize the potential for health hazards to water users in the event of a watermain or sewer line rupture that could result in contamination of the water distribution system. The guideline is supported by Procedure F-6-1: "Procedures to Govern the Separation of Sewers and Watermains" (July, 1984, as amended).

**1.0 Definition****Sewage/sewage works:**

Includes sanitary sewers, sanitary forcemains, storm sewers, and storm forcemains, together with all appurtenances and fittings.

**2.0 Rationale**

Sewers/sewage works and watermains located parallel to each other shall be constructed in separate trenches maintaining a minimum clear horizontal separation distance of 2.5 metres in accordance with the Procedure F-6-1: "Procedures to Govern the Separation of Sewers and Watermains", dated July 1984, as amended.

In cases where it is not practical to maintain separate trenches or the recommended horizontal separation distance cannot be achieved, the Ministry, in accordance with the above-noted procedure, may allow deviation from the separation requirements.

**3.0 Hazards due to Contamination**

Contaminated ground and surface water may enter the water distribution system through leaks or breaks in the piping, vacuum air relief valves, blow-offs, fire hydrants, meter sets, outlets, etc. with the occurrence of negative internal or positive external pressure. Water pressure in a part of the system may be reduced to a potentially hazardous level due to shutdowns in the system, main breaks, heavy fire demand, high water usage, pumping, storage, or transmission deficiency.

**4.0 Prevention of Health Hazards**

It is recognized by the Ministry that health hazards may develop through proximate locations of watermains and sewers. Adequate protection must be provided to prevent the occurrence of waterborne disease and chemical poisoning due to contaminated ground- water and surface run-off entering the water distribution system.

**PROCEDURE F-6-1**  
**(formerly referenced by 08-02)**

**Procedures to Govern Separation  
of Sewers and Watermains**

PROCEDURE F-6-1  
PROCEDURES TO GOVERN THE SEPARATION  
OF SEWERS AND WATERMAINS

1. Sewers/sewage works<sup>1</sup> and watermains located parallel to each other should be constructed in separate trenches maintaining a minimum clear horizontal separation distance of 2.5 metres.

In cases where it is not practical to maintain separate trenches or the recommended horizontal separation cannot be achieved, the Ministry of Environment and Energy or its designated "agent" may allow deviation from the above.

- 1.1 **Rationale** This is considered a good engineering and construction practice and will reduce the potential for health hazard in the event of the occurrence of conditions conducive to possible contaminated ground water flow into the water distribution system.
- 1.2 Contaminated ground and surface water may enter the water distribution system at leaks or breaks in piping, vacuum air relief valves, blowoffs, fire hydrants, meter sets, outlets, etc. with the occurrence of a negative internal or positive external pressure condition. Water pressure in a part of the system may be reduced to a potentially hazardous level due to shutdowns in the system, main breaks, heavy fire demand, high water usage, pumping, storage, or transmission deficiency.
- 1.3 It is recognized by the Ministry of Environment and Energy that health hazards may develop through relative locations of watermains and sewers. Adequate protection must be provided to prevent the occurrence of waterborne disease and chemical poisoning due to contaminated ground water and surface runoff entering the water distribution system.

## 2.0 Exceptions

Under unusual conditions, deviations from the "separate trench" requirement may be allowed but only in accordance with the Ministry of Environment and Energy guidelines for location of sewers and watermains set out as follows.

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<sup>1</sup> Sewers/Sewage works includes sanitary sewers, sanitary forcemains, storm sewers, and storm forcemains, and all appurtenances/fittings thereto.



### 3.0 General

Ground or surface water may enter an opening in the water distribution system with the occurrence of a negative internal/positive external pressure condition. Ground water may enter the distribution system at leaks or breaks in piping, vacuum-air relief valves, blow-offs, fire hydrants, meter sets, outlets, etc. Water pressure in a part of the system may be reduced to a potentially hazardous level due to shut downs in the system, main breaks, heavy fire demand, high water usage, pumping, storage, or transmission deficiency.

The relative location of sewers and watermains (including appurtenances) and types of material used for each system are important considerations in designing a system to minimize the possibility of contaminants entering the water distribution system.

The use of, and adherence to, good engineering and construction practice will reduce the potential for health hazard in the event of the occurrence of conditions conducive to ground water flow into the water distribution system.

### 4.0 Parallel installations

Under normal conditions, watermains should be laid with at least 2.5 metres horizontal separation from any sewer or sewer manhole; the distance shall be measured from the nearest edges.

- a) Under unusual conditions, where a significant portion of the construction will be in rock, or where it is anticipated that severe dewatering problems will occur or where congestion with other utilities will prevent a clear horizontal separation of 2.5 metres, a watermain may be laid closer to a sewer, provided that the elevation of the crown of the sewer is at least 0.5 metres below the invert of the watermain. Such separation shall be of in-situ material or compacted backfill.
- b) Where this vertical separation cannot be obtained, the sewer shall be constructed of materials and with joints that are equivalent to watermain standards of construction and shall be pressure tested, in accordance with Division 701 of the OPSS (Ontario Provincial Standards Specification, published by Ontario Ministry of Transportation) at a pressure of 350 kPa, with no leakage.
- c) In rock trenches, facilities should be provided to permit drainage of the trench to minimize the effects of impounding of surface water and/or leakage from sewers in the trench.

### 5.0 Crossings

- 5.1 Under normal conditions, watermains shall cross above sewers with sufficient vertical separation to allow for proper bedding and structural support of the watermain and sewer main.
- 5.2 When it is not possible for the watermain to cross above the sewer, the watermain passing under a sewer shall be protected by providing:

- a) A vertical separation of at least 0.5 metres between the invert of the sewer and the crown of the watermain.
- b) Adequate structural support for the sewers to prevent excessive deflection of joints and settling.
- c) That the length of water pipe shall be centred at the point of crossing so that the joints will be equidistant and as far as possible from the sewer.

## 6.0 SERVICE CONNECTIONS

Wherever possible, the construction practices outlined in this guideline should apply with respect to sewer and water services.

## 7.0 TUNNEL CONSTRUCTION

If the "Tunnel" is of sufficient size to permit a man to enter the tunnel for the purposes of maintenance, etc., it is permissible to place the sewer and watermain through the tunnel providing the watermain is hung above the sewer. If the tunnel is sized only to carry the pipes, or if the tunnel is subject to flooding, the sewer shall be constructed of materials and with joints that are equivalent to watermain standards of construction and shall be pressure tested, in accordance with Division 701 of the OPSS at a pressure of 350 kPa with no leakage.

## 8.0 DESIGN FACTORS

When local conditions do not permit the desired spacing, or water and sewer lines or other conditions indicate that detailed investigations are warranted, the following factors should be considered in the design of the environment and relative location of water and sewer lines.

This list of factors should be considered as a guide. The list is not all-inclusive.

- a) Materials, types of joints and identification for water and sewage pipes;
- b) Soil conditions, e.g. in-situ soil and backfilling materials and compaction techniques;
- c) Service and branch connections into the watermain and sewer lines;
- d) Compensating variations in the horizontal and vertical separations;
- e) Space for repair and alterations of water and sewer pipes;
- f) Off-setting of pipes around manholes;
- g) Location of ground-water table and trench drainage techniques;
- h) Other sanitary facilities such as septic tanks and tile fields, etc.

## 9.0 VALVE, AIR RELIEF, METER AND BLOW-OFF CHAMBERS

- a) Chambers or pits containing valves, blow-offs, meters or other such appurtenances to a water distribution system shall not be connected directly to any sanitary sewer, but may be connected to storm sewers provided that some means of back flow prevention is included.
- b) Blow-offs or air relief valves shall not be connected directly to any

sewer.

- c) Such chambers or pits shall be drained to the surface of the ground where they are not subject to flooding by surface water; to absorption pits underground or to a sump within the chamber where ground water level is above the chamber floor.

## **10.0 SURFACE**

### **POTABLE WATER RESERVOIRS BELOW NORMAL GROUND AND WELL SUPPLIES**

Sewers, drains, and similar sources of contamination should be kept at least 15 m from potable water reservoirs below normal ground surface and well supplies. Mechanical-jointed water pipes, pressure tested, in accordance with Division 701 of the OPSS at a pressure of 350 kPa with no leakage, may be used for gravity sewers at lesser separations.

## **11.0 UNACCEPTABLE INSTALLATIONS**

No watermain or service line shall pass through or come into contact with any part of a sewer, sewer manhole and/or septic tank and tile field or similar sources of contamination.

**GUIDELINE F-8**  
(formerly 08-04)

**Provision and Operation of Phosphorus Removal  
Facilities at Municipal, Institutional and  
Private Sewage Treatment Works**

**Legislative Authority:**

*Ontario Water Resources Act*, Section 53  
*Ontario Water Resources Act*, Section 60

**Responsible Director:**

Director, Program Development Branch

**Last Revision Date:**

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**SYNOPSIS**

The primary purpose of this guideline is to ensure that phosphorus removal facilities are installed and properly operated at municipal, institutional and private sewage treatment works, to minimize water quality problems and associated eutrophication problems caused by excessive phosphorus levels in receiving water bodies.

This guideline is supported by Guideline F-10: "Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" and Procedure F-8-1: "Determination of Phosphorus Removal Requirements for Municipal, Institutional and Private Sewage Treatment Works".

**1.0 Introduction**

The primary purpose of this guideline is to ensure that phosphorus removal facilities are installed and properly operated at municipal, institutional and private sewage treatment works. Phosphorus removal is designed to protect receiving water quality and minimize associated eutrophication problems. An oversupply of nutrients, especially phosphorus and nitrogen, can cause algal blooms that clog waterways and strip the water of oxygen. Eutrophication can kill fish, impair the recreational value of a water body and raise the cost of drinking water treatment.

Phosphorus limits on sewage treatment plant discharges are gauged to the attenuating capacity of the receiving water body. This guideline addresses phosphorus discharges to, specifically, the basins of Lakes Erie, Superior, Huron and Ontario, the St. Lawrence and Ottawa Rivers, and recreational waterways. In addition, more stringent requirements may be assessed on a case-by-case basis.

Any deviation or relaxation from this guideline must receive the concurrence of the Director, Program Development Branch.

**2.0 Compliance Assessment**

Except for seasonal and annual discharging lagoons, compliance with effluent phosphorus requirements for all other sewage works shall be assessed using a monthly arithmetic mean concentration calculated for each month of discharge.

For seasonal and annual discharging lagoons, compliance with the effluent phosphorus requirements shall be assessed using an arithmetic mean concentration calculated for each discharge period.

The minimum sampling frequencies for treatment works are described in Procedure F-8-1:

"Determination of Phosphorus Removal Requirements for Municipal, Institutional, and Private Sewage Treatment Works".

At sewage works where samples are collected more frequently than the minimum requirement, all samples must be included in the calculation of the mean concentrations.

In the case of conflict between the requirements specified in this guideline and those of Guideline F-10: "Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" and Guideline F-5: "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters", and their associated procedures, the requirements of this guideline shall take precedence.

### **3.0 Basin Requirements**

#### **3.1 Lake Erie**

All municipal and institutional sewage treatment works discharging into the Lake Erie Basin, regardless of nominal design capacity, shall have effluents not exceeding a total phosphorus concentration of 1.0 mg/l.

#### **3.2 Lake Superior, Lake Huron, Lake Ontario, St. Lawrence and Ottawa River basins**

All municipal and institutional sewage treatment works, having nominal design capacities of 4,546 cubic metres per day, or more, discharging into the Lake Superior basin, Lake Huron basin, Lake Ontario basin, St. Lawrence River basin, or Ottawa River basin shall have effluents not exceeding a total phosphorus concentration of 1.0 mg/l.

#### **4.0 Recreational Waterways**

All municipal and institutional sewage treatment works, regardless of capacity, discharging to recreational waterways, such as, but not restricted to, the Trent-Severn River system (including the Lake Simcoe drainage basin and the Bay of Quinte drainage basin), the Rideau River system, the Lake Nipissing drainage basin, and selected areas of the Lake Huron (Georgian Bay) drainage basin shall have effluents not exceeding a total phosphorus concentration of 1.0 mg/l.

### **5.0 More Stringent Requirements**

Phosphorus removal requirements more stringent, (either in terms of effluent concentration/loading, or design hydraulic capacity to which they apply), than those outlined in Sections 2 and 3 above, may be imposed, but only when justified by appropriate site-specific receiving water assessments or basin-wide considerations.

At treatment facilities which have a more stringent seasonal requirement, such as an effluent total phosphorus concentration of 0.5 mg/l in the period May to September inclusive, the lower concentration requirement may be assessed as the mean for the season. The

requirement of a monthly mean concentration of 1.0 mg/l must still be achieved both during and outside this seasonal period.

#### **6.0 Phosphorus Removal Based on Water Assessment Studies**

Phosphorus removal requirements for municipal and institutional sewage treatment works discharging to water not included in Sections 2 to 4, and for private communal sewage treatment works, shall be determined through receiving water assessments, as the need arises.

#### **7.0 Sample Collection and Analysis for Effluent Phosphorus Determination**

Sample collection and analytical procedures to assess effluent compliance shall be in accordance with Guideline F-10: "Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)".

#### **8.0 Procedure F-8-1**

For assistance in implementing this guideline, reference should be made to Procedure F-8-1: "Determination of Phosphorus Removal Requirements for Municipal, Institutional and Private Sewage Treatment Works".



**PROCEDURE F-8-1**  
(formerly referenced by 08-04)

**Determination of Phosphorus Removal Requirements for  
Municipal, Institutional and Private  
Sewage Treatment Works**

**PROCEDURE F-8-1****DETERMINATION OF PHOSPHORUS REMOVAL REQUIREMENTS FOR  
MUNICIPAL, INSTITUTIONAL AND PRIVATE SEWAGE TREATMENT WORKS****1. Introduction**

The phosphorus removal program was adopted by the Ontario Water Resources Commission by resolution passed on July 9, 1970. The first phosphorus removal facilities were to be operational by December 31, 1973, while the remainder were to be operational by December 31, 1975. Background information on the phosphorus removal program is included in the document entitled "Summary Report on the Phosphorus Removal Program", April 1976. The signing in October 1983 of the "Supplementary Agreement" to the 1978 Canada-United States Agreement on Great Lakes Water Quality modified the phosphorus removal mandate to include phosphorus removal at all municipal and institutional facilities with a nominal design capacity of 4,546 m<sup>3</sup>/d (1.0 mlgd) or greater in the Upper Lakes Basin. Copies of the Supplementary Agreement or the Summary Report can be obtained from the Program Development and Support Branch.

**2. Terminology**

- 2.1 Total phosphorus removal and effluent level requirements referred to in this guideline shall be evaluated (for compliance purposes) in accordance with the provisions under Guideline F-5: "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters" and F-10: "Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" and their associated procedures.
- 2.2 Effluent total phosphorus level requirements are expressed in terms of mg/L as Phosphorus unless otherwise stated.
- 2.3 A sewage treatment works "nominal design capacity" refers to the treatment capacity in terms of average daily flow rate.
- 2.4 Lake Superior Basin includes all tributary streams draining into Lake Superior.
- 2.5 Lake Huron Basin includes all tributary streams draining into Lake Huron including the St. Mary's River.
- 2.6 Lake Erie Basin includes all tributary streams draining to Lake Erie, including the St. Clair - Lake St. Clair - Detroit River system.
- 2.7 Lake Ontario Basin includes all tributary streams draining to Lake Ontario, including

the Niagara River and the Welland Canal. Also included in the Lake Ontario Basin is the International Section of the St. Lawrence River.

### 3.0 **Municipal Phosphorus Removal Requirements**

For updated information on the municipalities requiring phosphorus removal and effluent requirements, refer to the list entitled, "Province of Ontario Phosphorus Removal Requirements" & (June 1984). The Program Development Branch will update this list periodically and should be contacted if questions arise.

### 4.0 **Exemption from Equipment Installation Requirements**

Sewage treatment works which are capable of satisfying the applicable total phosphorus removal or effluent level requirements without supplementary chemical addition will not be required to install phosphorus removal facilities. Dilution is not acceptable as a means of achieving the required effluent levels.

### 5.0 **Design Guidelines**

For information on the design of phosphorus removal facilities, reference should be made to **Guidelines for the Design of Sewage Treatment Works**.

**GUIDELINE F-9**  
(formerly 08-05)

**The Use of Holding Tanks in Sewage Systems**  
**Under Part VIII of the *Environmental Protection Act***

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part VIII*  
Ontario Regulation 358

**Responsible Director:**

Director, Approvals Branch

**Last Revision Date:**

April, 1994

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**1.0 DEFINITIONS**

**2.0 CLASS 5 SEWAGE SYSTEMS NOT PERMITTED**

**3.0 EXCEPTIONS**

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## SYNOPSIS

The primary purpose of this guideline is to protect human health and the environment by restricting the use of holding tanks in sewage systems. Systems which use holding tanks are expensive to operate and do not constitute a sufficiently reliable system for dealing with raw sewage on an ongoing basis. The use of holding tanks may be allowed in certain circumstances, provided that the municipality involved is willing to accept the responsibility for the disposal of the holding tank contents.

The guideline applies to proponents who require a Certificate of Approval and a Use Permit for sewage systems under Sections 76 and 78 of the *Environmental Protection Act*, and to the Director appointed under Section 5 of the *Environmental Protection Act*.

Reference should also be made to Procedure F-9-1: "Manual for Onsite Sewage Systems".

## 1.0 Definitions

### Part VIII System:

A sewage system as defined in the *EP Act*, *RSO 1990*, Part VIII, Section 74

### Class 4 Sewage System:

A septic tank system

### Class 5 Sewage System:

A sewage system which requires or uses a holding tank for the storage or retention of hauled sewage at the site where it is produced prior to its collection by a Class 7 sewage system

### Class 6 Sewage System:

A sewage system in which sewage is treated in a proprietary aerobic sewage treatment plant

### Class 7 Sewage System:

A hauled sewage system

### Director:

A person appointed as Director, for Part VIII, *EP Act*, either from Ministry staff, or officials of Health Units

## **2.0 Class 5 Sewage Systems Not Permitted**

Directors shall not approve applications for Class 5 sewage systems where the intended use is:

- (a) for any new commercial, industrial, institutional, or residential installation;
- (b) to permit the expansion of existing buildings or structures already served by a Class 5 sewage system;
- (c) to permit a change in the use of existing buildings or structures where the change results in the existing Class 4 or Class 6 sewage system being rendered inadequate; or
- (d) for the development of undeveloped lots within a plan of subdivision registered before April 16, 1974, where the individual lots are of insufficient size to permit the installation of a Class 4 or Class 6 system.

## **3.0 Exceptions**

Notwithstanding Section 2.0, Directors may permit the use of Class 5 sewage systems where a written agreement has been established with a hauler in the following circumstances:

- (a) the proposed land use is for a temporary operation (excluding seasonal recreational use) not exceeding 12 months in duration;
- (b) as an interim measure for a parcel of land until municipal sewers are available, and where the municipality undertakes to ensure the continued operation of an approved Class 7 sewage system until municipal sewers are available;
- (c) where the lot is in a registered plan of subdivision but the lot is of insufficient size to permit the construction of a Class 4 or Class 6 sewage system and the municipality undertakes to ensure the continued operation of an approved Class 7 sewage system;
- (d) to permit the expansion of an existing single-family residence which will continue as such and is already served by a Class 5 system;
- (e) to solve an existing pollution problem where the correction of the problem by the installation of a Class 4 or Class 6 sewage system is not possible due to lot size or dimension limitations;
- (f) to upgrade the standard of a sub-standard sewage disposal system on an existing lot, where upgrading through the use of a Class 4 or Class 6 sewage system is not possible due to lot size or dimension limitations.

## **3.1 Financial Assurance**

Where exceptions are granted under 3(a) and 3(b), approval shall be conditional on financial assurance being provided by proponents in accordance with Procedure F-15-1: "Procedures for Financial Assurance."

Financial assurance, when imposed under the previous paragraph or otherwise, will be requested for the costs of such matters as pump-outs and the decommissioning of systems employing holding tanks and providing connections to future sanitary sewers.

**NOTE:** Sewage systems regulated by O. Reg 358, including Class 5 sewage systems,

are for the treatment and disposal of normal domestic sewage and other equivalent waste as determined by the Director. In the case where holding tanks are being considered for new commercial, industrial, institutional or residential installations (i.e., Section 2(a)) to solve an existing pollution problem where the correction of the problem by the installation of a Class 4 or Class 6 sewage system is not possible because there is no suitable area for such a system on the lot (i.e., Section 3(e)); the plumbing shall be segregated unless the Director has determined that the sewage/waste is suitable for treatment and disposal in a Part VIII system. The storage and removal of such segregated waste shall be regulated under Part V of the *EP Act*.

Conditions other than requirements of Financial Assurances may also be applied to the approval referred to in Section 3.1.



**PROCEDURE F-10**  
(formerly 08-06)

**Sampling and Analysis  
Requirements for Municipal and Private  
Sewage Treatment Works (Liquid Waste Streams Only)**

**Legislative Authority:**

*Ontario Water Resources Act, RSO 1990*

**Responsible Director:**

Director, Program Development Branch

**Last Revision Date:**

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- 1.0 SAMPLING LOCATIONS
- 2.0 ROUTINE SAMPLING AND ANALYSIS PROGRAM
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- 4.0 SAMPLING AND ANALYSIS FOR OPERATIONS' CONTROL
- 5.0 ANALYST'S QUALIFICATIONS
- 6.0 SAMPLING AND ANALYSIS PROCEDURES
- 7.0 SAMPLING AND ANALYSIS RESPONSIBILITY

**SYNOPSIS**

This procedure describes the Ministry's sampling and analysis requirements for municipal and private sewage treatment works (liquid waste streams) for the purpose of assessing performance and compliance with effluent requirements prescribed under Guideline F-5: "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters" and Procedure F-10-1: "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)".

Implementation of this guideline is in accordance with provisions in Section 61 of the *Ontario Water Resources Act* and the Canada-Ontario Agreement Respecting Great Lakes Water Quality.

**1.0 Sampling locations**

The Ministry requires that samples, from the liquid waste streams of municipal and private sewage treatment works, shall be taken and analyzed regularly in such a way as to reflect actual operating conditions and to permit evaluation of a treatment works' performance and compliance with effluent requirements.

Samples must be taken of raw sewage, final effluent and, if applicable, effluent from intermediate treatment processes and by-passes (e.g., primary effluent, or, if tertiary treatment is provided, secondary effluent).

Where the treatment works are divided into separate process flow trains, the above samples shall be taken from each plant section. If the raw sewage treated by each plant section is identical in quality, only one raw sewage sample and one effluent sample shall be necessary.

**2.0 Routine Sampling and Analysis Program**

Samples shall be taken and analyzed routinely at least once per month.

Lagoons operating on a fill-and-draw basis shall be sampled after treatment and prior to discharge to checking compliance against critical parameter criteria for all required effluent criteria on the final day of discharge and at least once more during the discharge period.

Samples shall be analyzed for, at a minimum, BOD<sub>5</sub>, suspended solids, ammonia plus ammonium nitrogen (for effluent streams only) and total phosphorus (see Guideline F-8).

**3.0 Special Sampling and Analysis Program**

Special sampling and analysis requirements, which may include additional analytical

parameters, increased frequency of sample collection and analysis, in-plant analysis requirements and more stringent compositing procedures, etc., may be prescribed by the Ministry's Regions in consultation with other relevant Ministry branches, on a case-by-case basis, for sewage treatment works discharging to sensitive receiving waters. Sampling and analysis requirements, less stringent than those required under the Routine Sampling and Analysis Program, may also be considered in special cases, such as for small sewage treatment works discharging to non-critical receiving waterbodies.

Special sampling programs shall be developed in accordance with the Procedure F-10-1: "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)".

#### **4.0 Sampling and Analysis for Operations' Control**

Sampling and analysis requirements necessary for monitoring the proper control of the day-to-day operation of sewage treatment works will normally exceed the above policy requirements. Sampling and analysis requirements for proper operational control purposes shall be the responsibility of the operating authority.

#### **5.0 Analyst's Qualifications**

Analytical work shall be carried out by properly trained personnel using standard techniques and equipment.

#### **6.0 Sampling and Analysis Procedures**

All sampling and analysis operations, including sample collection, preservation and submission, laboratory requirements and analysis results reporting shall be performed in accordance with guidelines listed in Section 3.0 above.

#### **7.0 Sampling and Analysis Responsibility**

Overall responsibility for carrying out sampling and analysis under this guideline rests with the sewage treatment works' operating authority.

**PROCEDURE F-10-1**  
**(formerly referenced by 08-06)**

**Procedures for Sampling and Analysis**  
**Requirements for Municipal and Private Sewage Treatment Works**  
**(Liquid Waste Streams Only)**

## PROCEDURE F-10-1

PROCEDURES FOR  
SAMPLING AND ANALYSIS REQUIREMENTS FOR MUNICIPAL AND PRIVATE  
SEWAGE TREATMENT WORKS  
(Liquid Waste Streams Only)

**1.0 General**

The primary purpose of the sampling and analysis program covered by Guideline F-10 is to evaluate a sewage treatment works' performance and compliance with effluent requirements. Guideline F-10 and this procedure are meant to apply to all municipal and private (non-industrial) sewage treatment works in the Province of Ontario, except for those exempted from the requirements of Section 53 of the *OWR Act* (R.S.O. 1990).

While it is realized that the more frequently samples are taken and analyzed, the more reliable the performance evaluation will be, it is also recognized that more extensive sampling and analysis will result in greater expense. Ideally, all sewage treatment works could be sampled 24 hours per day every day, but such a program would be unaffordable at all except the largest plants in the Province.

If sample data are to be used for prosecution purposes, the reliability of the data must be high. On the other hand, if the data are only to be used for screening purposes (e.g., to decide when and if more intensive sampling should be carried out), the data reliability need not be as great, and in such instances, the frequency of the sampling and analysis program can be reduced.

The sampling and analysis requirements outlined in this procedure are considered to be suitable for screening purposes only\* (a minimum program). The requirements of such an intensive sampling and analysis program and any subsequent prosecution mode sampling program would have to be developed on a case-by-case basis and in accordance with Guideline F-5: "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters" and Procedure F-5-3: "Derivation of Sewage Treatment Works Effluent Requirements for the Incorporation of Effluent Requirements Into Certificates of Approval for New or Expanded Sewage Treatment Works". Prior to any legal action being taken as a result of a sewage treatment works' effluent appearing to be in noncompliance with the conditions in a Certificate of Approval, an intensive sampling and analysis program may have to be undertaken to confirm the noncompliance.

\*Except for severe and well defined cases of noncompliance where Ministry staff may consider proceeding with legal action based on data from this screening sample.

The following sections deal in detail with the 'routine' sampling and analysis program and discuss special sampling and analysis programs only in general terms.

The 'routine' sampling and analysis program is the minimum requirement of this procedure and is outlined in detail in Tables 1, 2 and 3 and applies in cases where only BOD<sub>5</sub>, suspended solids and phosphorus parameters require monitoring. Although ammonia plus ammonium nitrogen (for effluent only) is included in the 'routine' sampling and analysis program, it is included primarily for the purpose of building a data base to define the performance of individual sewage treatment works. If a sewage treatment works is required to achieve nitrification, a special sampling and analysis program more stringent than the 'routine' program may be necessary to adequately monitor this effluent parameter.

Special sampling and analysis programs may be necessary for sewage treatment works discharging to sensitive receiving waters. These special sampling and analysis programs may deviate from the 'routine' program requirements with respect to sampling and analysis frequency, compositing procedures, parameters to be analyzed for, in-plant analysis requirements, etc. Special sampling program requirements will be developed on a case-by-case basis by Regional Operations Division in conjunction with the Science and Technology Branch and other relevant Ministry Branches to ensure Province-wide consistency and proper allocation of the Ministry's laboratory resources.

The overall responsibility for monitoring a sewage treatment works' performance, including sampling and analysis programs, rests with the plant's operating authority. Although the following procedures indicate that the Ministry Laboratories **will** currently undertake the analytical work for routine sampling programs and may for special sampling programs, this service could be discontinued in future.

## 2.0 'Routine' Sampling and Analytical Program

### 2.1 Sample Collection

- (a) For all plants with design capacity in excess of  $4.54 \times 10^3 \text{ m}^3/\text{d}$ , samples should be composited over a twenty-four hour period. For smaller plants, samples composited over the normal hours of manned operation of the plant or at least over an eight-hour period, will be acceptable.
- (b) Composite samples shall ideally consist of flow-proportioned aliquots taken at least once per hour over the required sampling period. All aliquots should be thoroughly mixed.
- (c) Grab samples will be acceptable for lagoon systems.
- (d) To ensure that the best possible accuracy is obtainable from analytical results, all equipment coming in contact with the sample shall be clean.

## 2.2 Sample Preservation

- (a) If an automatic sampler is used, it should be located in a shaded area, rather than in direct sunlight.
- (b) The sample itself should be refrigerated at 4°C, if at all possible throughout the collection period, and during the time taken to transport the sample. If plant personnel deliver the samples, a styrofoam cooler can be used for this purpose. Small refreezable ice packs can be placed within the cooler. If, however, the samples must be shipped by courier or express service, it is recommended that a one-day delivery period should be requested.

## 2.3 Sample Size

- (a) At least one litre of sample from each sampling location should be submitted for the minimum analysis requirements (BOD<sub>5</sub>, SS, Ammonia plus Ammonium Nitrogen and total P). If the effluent sample has less than 1 mm of solid matter when settled, or is almost clear when shaken, provide an extra litre of sample.

## 2.4 Timing of Sample Collection and Submission for Analysis

- (a) Each sewage treatment works should be assigned a sample submission week by the Regional Office of the Ministry to avoid overloading laboratory facilities. Inter-regional scheduling of sample submissions will be coordinated by the Science and Technology Branch. Allowances should be made to schedule sampling and delivery to coincide with the days on which the analyses are normally performed. For example, samples arriving after noon on Friday will be at least three days old before analyses are done.
- (b) Samples should be submitted for analyses as soon as possible following collection. Since it is recommended that analyses be carried out within one day of sampling, sample delivery should ideally be made to the Laboratory within a one-day period.

## 2.5 Sample Analysis and Data Reporting

- (a) The Ministry of Environment and Energy Laboratories will accept for analysis samples associated with 'routine' sampling programs from all sewage treatment works.
- (b) Operating authorities who use their own analytical equipment or submit samples to commercial laboratories, shall still submit samples to the Ministry of Environment and Energy Laboratory for purposes of quality control auditing. Until the capability and accuracy of the plant or other laboratory are known, samples shall be submitted as normally required to the Ministry of



Environment and Energy Laboratory. As the capability and accuracy of the plant or commercial laboratory become known, the frequency of sample submission to the Ministry Laboratory may be reduced or possibly eliminated entirely. The frequency of submissions for quality control auditing will be suggested by the Ministry's Regional Office. To allow comparison of analytical results, samples submitted for quality auditing purposes shall be duplicates of the samples analyzed by the plant or commercial laboratory.

- (c) To satisfy all, or a part of, the analytical requirements of Guideline F-10, operating authorities using their own facilities or commercial laboratories shall submit copies of the analytical results at least once per month to the Regional Office of the Ministry. The Regions will forward copies of these results to Environmental Monitoring and Reporting Branch.
- (d) Eventually, all analytical data determined by the Ministry of Environment and Energy Laboratories from sewage treatment works sampling programs will be fed into a computerized database. Data from other laboratory analyses will also be fed into this database by the Environmental Monitoring and Reporting Branch as they are received from the Ministry's Regions. Thus, annual averages of plant performance and plant status with respect to compliance can be automatically determined. Results will be forwarded from the Science and Technology Branch to the Regions for action.

### **3.0 Special Sampling and Analysis Programs**

Where water assessment studies have indicated the need for limiting the concentrations of ammonia plus ammonium nitrogen, hydrogen sulphide, chlorine or other substances, effluent sampling for these parameters should be undertaken in addition to the monthly analysis for BOD<sub>5</sub>, suspended solids and total phosphorus. Deviations from the routine program requirements with respect to sampling and analysis requirements, etc., may also be necessary. In these cases, the special sampling and analysis programs will be developed on a case-by-case basis by Regional staff in consultation with other Ministry Branches. Ministry Regional staff should be contacted by the operating authorities so that clearance can be granted for the submission of samples from special programs to Ministry Laboratories. The Environmental Monitoring and Reporting Branch should be consulted by the Ministry's Regions to ensure Province-wide consistency and equitable allocation of the Ministry's Laboratory capacities.

### **4.0 Less Stringent Sampling and Analysis Programs**

Sampling and analysis programs less stringent than the routine program may be considered for special cases, such as small sewage treatment works discharging to non-critical receivers. Any proposed relaxation from the 'routine' sampling program must be justified (based on additional factors such as manpower limitations, economics, etc.) and agreed to by the Ministry's Regions in consultation with the Environmental Monitoring and Reporting Branch and other relevant Ministry Branches.

## 5.0 Additional References Pertaining to Sampling and Analysis Techniques

The Ministry's Laboratory Services Branch has prepared the following publications which should serve as reference documents:

- (a) Outlines of Analytical Methods, Coordinated by Water Quality Section, Laboratory Services Branch, 1981;
- (b) A Guide to the Collection and Submission of Samples for Laboratory Analysis, Fourth Edition, Coordinated by Water Quality Section, July 1979.

**PROCEDURE F-11**  
**(formerly 12-01)**

**Use of Farm Pollution Advisory Committee**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990*

**Responsible Director:**

Director, Environmental Planning Branch

**Last Revision Date:**

April, 1994

**SYNOPSIS**

The purpose of this procedure is to describe the use of the Farm Pollution Advisory Committee in investigating livestock-related pollution problems and to provide guidance to Ministry staff in obtaining appropriate abatement through the application of good farming practices. The procedures are intended to be applied to livestock-related pollution problems as substitutes for the procedures described in Sections 5.3 to 5.7 of Guideline F-2: "Compliance".

**1.0 Abatement Procedure for Livestock-Related Pollution Problems**

Normally, Ministry staff attempt to resolve pollution problems through discussion with the farmer concerned, and to obtain advice and assistance in this regard from representatives of the Ministry of Agriculture and Food, as required.

**2.0 Use of Farm Pollution Advisory Committee**

When Ministry staff have been unable to reach agreement with the farmer on a voluntary basis, the Farm Pollution Advisory Committee's advice shall be sought with the concurrence of the Ministry of Agriculture and Food.

With the establishment of the Farm Practices Protection Board under the *Farm Practices Protection Act*, the Farm Pollution Advisory Committee will not be responsible for investigating nuisance complaints about farm-related odour, noise or dust. The Farm Pollution Advisory Committee will continue to advise the Ministry with respect to livestock-related water problems.

**2.1 Mandatory Use**

The advice of the Committee shall be obtained prior to issuing a Control Order to a farmer, or laying a charge against a farmer relating to pollution arising from livestock operations.

**2.2 Exception**

Whenever the Regional Director has reasonable and probable grounds for believing that obtaining the Committee's advice would unduly delay urgently needed corrective action, or would not contribute to a resolution, the Regional Director may refrain from seeking the Committee's advice.

**2.3 Discretionary**

None of the foregoing should prevent Ministry staff from obtaining the Committee's advice whenever it might contribute to the resolution of a livestock-related pollution problem.

### **3.0 Procedure**

Ministry staff shall contact the liaison officer to activate the Committee's investigation when the Committee's advice is required.

### **4.0 Committee Report**

The Committee shall forward its report on its investigation to the Minister of the Environment and Energy and the Minister of Agriculture and Food. Copies shall be provided through the Ministry of Environment and Energy to staff of both Ministries and the farmer of concern.

### **5.0 Abatement/Enforcement Action**

The Regional Director shall decide on appropriate abatement/enforcement action after reviewing the report.

**GUIDELINE F-14**  
(formerly 02-01)

**Economic Analyses of Control Documents on  
Private Sector Enterprises and Municipal Projects**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part I, Section 4*

**Responsible Director:**

Director, Economic Services Branch

**Last Revision Date:**

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## SYNOPSIS

This guideline provides a framework for economic analyses that may be performed under the direction of the Economic Services Branch as part of the development of "control documents" issued to individuals, firms, corporations or municipalities. Control documents include Minister's reports, licences, permits, Certificates of Approval, notices of intent, orders, Control Orders, requirements and directions, and program approvals.

Economic analysis may also be required as evidence for an environmental prosecution or for sentencing after a conviction. The purpose of an economic analysis is to provide information about the financial implications and economic consequences of implementing or not implementing requirements in control documents. The results of the analysis will be used to help decide on the appropriate requirements and/or environmental objectives in control documents. The analysis can also be used as a basis for recommending a fine in a prosecution.

### 1.0 Definitions

#### Economic Analysis:

The application of economic principles to identify and evaluate the consequences of particular courses of action or changes in policy; includes benefit-cost, cost-effectiveness and/or financial effects analyses; the incidence or distribution of these consequences and values among different groups, economic sectors and/or regions is also determined

#### Regulated Party:

An individual, private company, corporation or other entity who is subject to an order or approval

#### Control Document:

A document which is authorized by statute, binding upon the recipient, and directly enforceable by prosecution; these include Minister's reports, licences, permits, Certificates of Approval, notices of intent, orders, Control Orders, requirements and directions, and program approvals (*For purposes of this guideline, a Control Document will also refer to a prosecution.*)

#### Financial Analysis:

The application of economic analytical techniques to estimate the economic and financial effects (both costs and benefits) of specific environmental requirements on individuals, firms, corporations, Crown corporations or municipalities



**Cost-Effectiveness Analysis:**

An economic analytical technique which involves a comparison of the costs of alternative methods to achieve a pre-specified objective or beneficial effect; or, determination of the method that will achieve the highest amount of a given objective or effect for a fixed level of input or expenditure

**Benefit - Cost Analysis:**

A framework that involves the identification, quantification and valuation of the costs and benefits associated with defined programs and alternative courses of action

**Environmental Objectives:**

Numerical or qualitative objectives specified in control documents (orders or approvals), including, but not limited to: maximum allowable flow rates, pollutant concentrations (in air or water-borne pollutant releases) pollutant loadings per unit time, etc.

**2.0 Objective**

To generate information about the financial and economic consequences of Control Documents on regulated parties that can be used by the Minister and Ministry personnel in making decisions.

**3.0 Purposes and Uses of Economic Analyses**

- (a) to assess and verify claims by a regulated party that it cannot afford the costs associated with a control document, or that costs associated with a control document are expected to cause plant closures, unemployment, or other undesirable consequences
- (b) to provide information about the costs, benefits and other economic consequences of proposed conditions or environmental conditions in a control document
- (c) to help decide on environmental objectives in a control document; or
- (d) to provide evidence for environmental prosecutions or for sentencing hearings after convictions.

**4.0 Initiation of an Economic Analysis****4.1 Authority to Initiate an Economic Analysis**

An economic analysis may be initiated by the Minister, the Deputy Minister, a Division Head or a Director.

#### **4.2 Reasons for Initiating an Economic Analysis**

- (a) a regulated party claims undue hardship, adverse financial effects, or economic consequences, such as plant closure, and requests an assessment;
- (b) a municipality claims undue hardship or financial effects associated with a Ministry control document;
- (c) another Ministry or Government agency requests an assessment; or
- (d) a Defendant in a prosecution presents financial/economic data as a defence or during sentencing.

#### **4.3 Protocol**

Requests for economic analyses shall be made through the appropriate Division Head or the Director of the Legal Services Branch to the Director, Economic Services Branch.

#### **5.0 Information that may be required:**

To conduct analyses, the Economic Services Branch shall normally require:

##### **5.1 Cost-Effectiveness Analyses**

- (a) quantitative specification of program objectives in terms of emission or discharge rates or ambient environmental quality levels;
- (b) a comprehensive specification of technologies or management systems that will achieve the stated objectives, alone or in combination; and
- (c) estimates of the capital and operating costs of implementing specified technologies or management procedures to achieve the stated objectives.

##### **5.2 Financial Impact Analyses**

In addition to the information described under 5.1(c):

- (a) detailed financial statements of the regulated party's operation for at least five years including, at minimum: consolidated income statements, balance sheets, statement of changes in financial position, relevant transfer prices and adopted accounting policies;
- (b) where a single establishment of a large, multi-establishment regulated party is the focus, desegregated financial data for the specific establishment are required; and

- (c) financial performance data for the industry in which the regulated party operates.

### **5.3 Benefit-Cost Analyses**

In addition to the information described under Section 5.1:

- (a) estimates of the physical quantities of equipment, chemicals, materials, labour (person-hours or years of work, etc.) and their financial values required to achieve various levels of abatement, pollution reduction or degrees of environmental protection, as well as any cost reductions or revenues resulting;
- (b) non-financial consequences of complying with the Control Document including (but not limited to) lay-offs, reduced or increased output or production; and
- (c) quantitative estimates and/or qualitative descriptions of the environmental and social gains or losses resulting from the proposed action(s) and, where possible, estimates of the dollar values associated with these consequences.

## **6.0 Implementation**

### **6.1 Responsibility and Co-ordination**

The Economic Services Branch shall co-ordinate the implementation of all economic analyses:

- (a) to determine whether analyses will be carried out in-house or by a consultant;
- (b) to ensure that methods used are consistent with the requirements of this and other relevant policies;
- (c) to ensure that results are of a consistent quality and comparable from one study to another; and
- (d) to ensure reports, data and other results of the analyses are maintained and accessible for future reference.

### **6.2 External Consultation**

Consultations with other Provincial Ministries, the Federal Government and other private and public agencies shall be undertaken as required.

## **7.0 Further Analyses**

If a financial analysis indicates that the control document compliance costs could cause severe financial burdens, plant closures, or employee layoffs, a more comprehensive benefit-cost

analysis may be implemented.

## **8.0 Provision of Relevant Information**

### **8.1 Responsibility of Regulated Parties**

Regulated parties who request economic analyses are expected to provide such financial and other types of information to Ministry personnel or its consultants, as needed, to carry out the analyses.

### **8.2 Failure to Provide Requisite Information**

### **8.3 Freedom of Information**

Failure to provide the required information by regulated parties who request financial assessment shall be interpreted to mean that the regulatory requirements have no significant adverse effects on the regulated party in question.

Information provided to the Ministry by individuals, private companies, Crown corporations or municipalities shall be subject to the provisions of the *Freedom of Information Act*.

It is expected that such information will be exempt from disclosure under the *Freedom of Information Act* because it pertains to private individuals, firms or corporations. However, determination regarding the confidentiality of any information supplied will be made by the Ministry's Freedom of Information Co-ordinator.

**GUIDELINE F-15**  
(formerly 02-03)

**Financial Assurance**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part XII*  
*Ontario Water Resources Act*

**Responsible Director:**

Director, Economic Services Branch

**Last Revision Date:**

April, 1994

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**SYNOPSIS**

This guideline identifies criteria for the use of financial assurance. The Ministry may impose financial assurance, in the form of cash, letters of credit, negotiable securities, or bonds, to ensure that various regulatory requirements are met. Such assurance may be imposed in the case of: Control Orders, approvals under the *Environmental Protection Act* and *Ontario Water Resources Act*, and decommissioning, clean-up, rehabilitation and decontamination activities.

More detail is provided in Procedure F-15-1: "Procedures for Financial Assurance".

**1.0 Introduction**

Financial assurance may be imposed by the Ministry to ensure that recipients of orders and approvals issued under the *Environmental Protection Act (EP Act)* or the *Ontario Water Resources Act (OWRA)* comply in a timely manner with the stated terms and conditions.

Financial assurance (FA) may also be required to ensure that funds are available for future decommissioning, clean-up, rehabilitation and decontamination activities.

It is the Ministry's intention to impose FA requirements in a consistent, equitable and effective manner while allowing flexibility in designing FA requirements.

FA requirements may be applied to new orders and approvals or to existing orders and approvals when they are extended, amended or renewed.

**2.0 Definitions****Financial Assurance (FA):**

One or more of the mechanisms listed in Section 131 of the *EP Act* by which one party guarantees its performance to another party (such as the Government)

**Approval:**

As defined in Section 131 of the *EP Act*

**Order:**

As defined in Section 131 of the *EP Act*

**Control Document:**

A document which is authorized by statute, binding upon the recipient, and directly enforceable by prosecution

**Regulated Party:**

An individual, private company, corporation or other entity which is subject to an order or approval and must provide financial assurance

**Guarantor:**

A third party, such as an insurance company, which will issue an assurance or a surety bond

**Program Director:**

Ministry official who is responsible for developing, issuing and enforcing the order or approval or a designate; called the "Director" in the *EP Act* and the *Ontario Water Resources Act*; may be a Regional Director or Director of the Approvals Branch; Directors employed by local boards of health, regional municipalities and elsewhere outside the Ministry are, for purposes of contracts between the Minister and their employer under Part VIII of the *EP Act*, also Program Directors

**Environmental Measures:**

As defined in Section 131 of the *EP Act*

**3.0 Scope**

Financial Assurance (FA) can be required as a condition of an order or an approval issued to a regulated party by the Ministry. For some types of orders or approvals, FA is a mandatory condition. For other types, a FA requirement is at the discretion of the Ministry Program Director who issues the order or approval.

From the point of view of a regulated party, FA is always required when it is a condition of an order or an approval.

**3.1 Mandatory Requirement**

The following regulatory activities and legal requirement activities must have financial assurance as a condition of an order or approval:

- A. Approvals under Part V, *EP Act*:
  - (i) private landfill sites:



- \* for which a hearing is required under Section 30 of the *EP Act*;  
or
- \* which will accept non-hazardous solid industrial, commercial or domestic wastes and which have a life-time capacity of at least 40,000 cubic metres (corresponding to 1500 people);
- (ii) private transfer stations and waste processing sites for subject wastes as defined in O. Regulation 347, and PCB mobile destruction units;
- (iii) private transfer stations and waste processing sites for other wastes where there is no identified place or practical method for final disposal in Ontario;
- (iv) private waste management (haulage) systems which carry biomedical and PCB subject (hazardous) wastes.

B. Approvals under Part VIII, *EP Act*:

All unclassified, unregulated sewage systems treating commercial or industrial waste water;

C. Approvals under Sections 52 and 53, *OWRA*:

- (i) private communal sewage and waterworks in unorganized areas where there is no agreement with the Ministry of Municipal Affairs for a local government agency (e.g., a local Services Board or a municipality to be created, or an existing municipality to be expanded) to take over the works in the event of a default;
- (ii) private communal sewage and waterworks in organized areas without an agreement with the local government agency to take over the system in a default situation.

**NOTE:** Financial assurance is not meant to take the place of an agreement with a municipal authority for the long-term operation and maintenance of communal waterworks, sewage works and sewage systems. However, financial assurance must be provided until such agreements with a municipality are ratified.

### 3.2 Discretionary Requirement

Activities for which a financial assurance may be required, at the discretion of a Program Director:

- A. Private landfill sites not referred to in Section 4.1.1.1. of Procedure F-15-1: "Procedures for Financial Assurance".
- B. Other Approvals under Part V, *EP Act*:
  - (i) reclamation or processing operations;
  - (ii) organic waste disposal sites (e.g., canning plant wastes);
  - (iii) incineration facilities;

- (iv) private transfer stations and waste processing sites for wastes other than those referred to in 4.1.1.2;
  - (v) PCB storage sites;
  - (vi) waste management systems (haulers) which do not handle hazardous subject wastes; and
  - (vii) mobile waste processing facilities.
- C. Approvals under Part VIII, *EP Act*:
- (i) Class 7 sewage systems;
  - (ii) all Class 4, 5 and 6 sewage systems serving either industrial, commercial or institutional facilities for which financial assurance is not mandatory; and
  - (iii) Class A sewage systems.
- D. Approvals under Section 53, *OWRA*:
- (i) industrial and milling activities that generate tailings, ash or other waste materials subject to Section 53, *OWRA*; and
  - (ii) any operation which discharges into surface waters.
- E. Air approvals under Section 9, *EP Act*:
- (i) storage of subject waste materials from air pollution control equipment; and
  - (ii) Conditional Certificate of Approval requiring upgrading and where there is uncertainty as to whether the equipment will work.
- F. Water Taking Permits under Section 34 *OWRA*:
- (i) private undertakings which are likely to reduce the quantity or quality of water supplies of neighbours, and where conditions require remedial measures.
- G. Control and other orders:
- (i) industrial abatement programs under Section 18, *EP Act*;
  - (ii) where an industrial or commercial site, which is contaminated with hazardous materials, is to be decommissioned; and
  - (iii) operations which store subject wastes on-site under O. Regulation 347 for more than 90 days.

#### **4.0 Criteria for deciding whether Financial Assurance should be required in an order on an Approval**

For those activities listed in Section 3.2, financial assurance may be required at the discretion of the Program Director, on the basis of one or more of the following criteria:

- (a) where a required action, process or task could result in adverse effects or damages to property owners, the public, or individuals who are not employees and for which financial compensation may be required;
- (b) when appropriate Regional Operations Division or Approvals staff determine that a

- facility or operation will require decommissioning, rehabilitation or environmental clean-up measures when it is to be shut down or modified in the future;
- (c) when long-term and/or perpetual management or monitoring of an existing or potential pollution or contamination problem is required by an order or an approval;
  - (d) when there is reason to expect that the regulated party might become insolvent in the future and be unable to complete or comply with the conditions of an order or an approval;
  - (e) when a regulated party or person has been convicted of violations involving pollution discharges or emissions for the specific or related problems that are being addressed in an order or approval;
  - (f) when the regulated party has missed deadlines in previous orders or approvals;
  - (g) when the regulated party receives an extension to a compliance date; and/or
  - (h) when the regulated party's operation or waste residuals are judged to be "high risk" in that the release of a contaminant could cause serious health, environmental or property damage, including interference with the operation of private and municipal wells.

## **5.0 Forms of Financial Assurance**

Forms of financial assurance are specified in Section 131 of the *EP Act* and include cash, irrevocable letters of credit, surety bonds, transferrable government bonds or other financial instruments agreeable to the Ministry.

## **6.0 Procedures for determining how much Financial Assurance is required.**

- (a) Conditions of approval or order shall be defined by Regional Operations Division/Approvals staff;
- (b) FA requirement shall be decided based on criteria specified in Procedure F-15-1;
- (c) Amount of FA shall be derived from estimates of the costs of complying with conditions of order or approval;
- (d) Cost estimates shall be supplied by approval applicants or regulated parties receiving an order;
- (e) Ministry staff shall verify estimates or produce them if not provided by regulated parties;
- (f) Guidance in estimating the costs of activities, facilities, etc. required by, or that must be implemented to comply with, orders or approvals, is found in Appendix A of Procedure F-15-1;
- (g) The recommended amounts of FA under different conditions are specified in Section 7 of Procedure F-15-1;
- (h) The actual, agreed-to amount, form and any special conditions of FA to be provided shall be determined through consultation with other Ministry staff and negotiation with the regulated party;
- (i) Where FA is provided as time-limited instruments (i.e., in the form of irrevocable letters of credit, surety bonds, etc.), provisions in an order or approval and staff responsibilities for tracking shall be defined so as to ensure that instruments are

renewed.

**NOTE:** Under certain conditions, only cash or eligible government bonds shall be acceptable forms of financial assurance.

## **7.0 Periodic Reviews**

As with other conditions of an order or an approval, FA requirements can be reviewed periodically and adjusted up or down in order to account for changing circumstances.

## **8.0 Defaults and drawing on Financial Assurance**

Specific conditions contributing to a default shall be clearly specified in the conditions of the order or approval. These conditions should include one or more of the following:

- (a) the regulated party misses two successive deadlines in the compliance schedule;
- (b) notice is received of proposed cancellation or non-renewal of a letter of credit or of some other form of financial assurance and a satisfactory alternative form of assurance has not been arranged (sufficiently) before the cancellation or expiry of the existing financial assurance; and/or
- (c) notice is received of the impending insolvency of the regulated party or the surety.

## **9.0 Responses to a Default**

It is presumed that the regulated party has been given adequate notice of the conditions of the default, together with opportunities to rectify these deficiencies:

- (a) If the FA has been given in bonds, an irrevocable letter of credit, or similar security, all or part of the FA amount may be claimed by the Program Director (with the appropriate authorization) and the proceeds transferred to the Consolidated Revenue Fund. Any interest that has been earned on this money shall accrue to the amount of the FA;
- (b) Where FA or its proceeds is to be used to complete the action, facility or environmental measure is as specified in the order or approval, a Director's order is required to authorize such expenditure. This order can be appealed;
- (c) The order or approval which requires posting of the FA shall specify, as conditions, the purposes to which the FA can be applied;
- (d) If the FA is a surety or performance bond, or other type of agreement that is not readily convertible to cash, the provisions of the agreement that is part of a surety or performance bond shall apply. This may include hiring, by the Ministry, of a different contractor to carry out or complete the required works;
- (e) Where facilities or sites are abandoned, FA shall be expended on required decommissioning, clean-up and other necessary tasks;
- (f) Where it is not feasible to utilize outside contractors to complete required environmental works or measures as required by the order or the approval (e.g., where

access cannot be gained to an abatement facility or where compliance requires a process change within a manufacturing plant), the Ministry shall realize on the assurance and withhold any funds until compliance is achieved. In the meantime, other enforcement actions and sanctions (e.g., prosecutions) may be applied.

**PROCEDURE F-15-1**  
(formerly referenced by 02-03)

**Procedures for  
Financial Assurance**

PART XII

ONTARIO ENVIRONMENTAL PROTECTION ACT

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part XII*

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## PROCEDURES FOR FINANCIAL ASSURANCE

### 1.0 Legislative Authority

Legislative authority for the requirement of financial assurance in association with Director's orders and approvals under both the *Environmental Protection Act* (EPA) and the *Ontario Water Resources Act* (OWRA) derives from Part XII (Financial Assurance), Sections 131-136, of the *Environmental Protection Act*.

### 2.0 Statement of Principles

- 2.1 This procedure specifies how financial assurance requirements are to be administered by the Ministry.
- 2.2 Financial Assurance is discretionary on the part of the Program Director. Nevertheless, Financial Assurance will normally be required as a condition for certain types of orders or approvals listed in Section 4.1. Criteria for deciding whether to require financial assurance for all other types of orders or approvals (as listed in Section 4.2) are given in Section 5.0.
- 2.3 This procedure is intended to ensure that the administration of financial assurance requirements is consistent, equitable and effective.
- 2.4 This procedure addresses the following topics:
  - conditions when financial assurance may be required of the recipients of orders or approvals;
  - determining the amount of financial assurance to be required;
  - the types of eligible financial assurance and the minimum requirements for depositing, accepting and releasing such assurance;
  - review and reporting procedures that must be carried out when financial assurance is in force;
  - conditions of default;
  - responses to a default.
- 2.5 Financial assurance will be required in order to:
  - ensure that funds are available to comply with the conditions of an order or approval;

- assemble funds for decommissioning, clean-up, rehabilitation and perpetual care at future dates.
- 2.6 Financial assurance may not be retained as a penalty.
- 2.7 Financial assurance will not normally be required of municipalities and other public bodies or institutions, for the following reasons:
- they are not subject to bankruptcy and financial insolvency to the same degree as are private companies;
  - municipalities have a permanency of place which prevent them from walking away from local problems;
  - public institutions are generally backed by provincial or federal government resources.
- 2.8 Financial assurance may be required for existing operations as well as new facilities but, in either case, it must be specified as a condition in an order or an approval.
- 2.9 Primary contact with regulated parties will be through the Program Director. The Program Director will ensure that other relevant Ministry Officials, specifically Director of the FCMB are informed of specific actions.
- 2.10 Regulated parties which own/operate more than one site subject to financial assurance may request that a single financial assurance account be established to include all such sites.

### 3.0 Definitions

- 3.1 **Financial Assurance** - means one or more of the mechanisms listed in Section 131 of the *EPA* by which one party guarantees or obtains a guarantee of its performance to another party (such as the Government).
- 3.2 **Approval** - as defined in Section 131 of the *EPA* and appropriate sections of the *Ontario Water Resources Act*.
- 3.3 **Order** - as defined in Section 131 of the *EPA* and appropriate Sections of the *Ontario Water Resources Act*.
- 3.4 **Control Document** - A document which is authorized by statute, binding upon the recipient, and directly enforceable by prosecution.
- 3.5 **Regulated Party** - the party which or person who, under an approval or an order, is subject to a prevention or an abatement requirement and must provide financial assurance.

- 3.6 **Guarantor** - a third party, such as an insurance company, which will issue an assurance or a surety bond.
- 3.7 **Program Director** - Ministry of Environment and Energy official who is responsible for developing, issuing and enforcing the order or approval or a designate. Called the "Director" in the *Environmental Protection Act* and the *Ontario Water Resources Act*; may be a Regional Director or Director of the Approvals Branch. Directors employed by local boards of health, regional municipalities and elsewhere outside the Ministry of Environment and Energy, are, for purposes of contracts between the Minister and their employer under Part VIII of the EPA, also Program Directors.
- 3.8 **Environmental Measures** - as defined in Section 131 of the EPA.
- 4.0 **Activities for which Financial Assurance is required or is discretionary**
- 4.1 Activities for which Financial Assurance is **required** in every case.
- 4.1.1 Approvals under Part V, EPA
- 4.1.1.1 private landfill sites
- for which a hearing is required under Section 30 of the EP Act; or
  - which will accept non-hazardous solid industrial, commercial or domestic wastes and which have a life-time capacity of 40,000 cubic metres or more (i.e., 1,500 people),
- 4.1.1.2 private transfer stations, which handle "subject wastes" as defined in Regulation 347, waste processing sites for subject wastes, and PCB mobile destruction units,
- 4.1.1.3 private transfer stations and waste processing sites for other wastes where there is no identified place or practical method for final disposal in Ontario,
- 4.1.1.4 private waste management (haulage) systems which carry biomedical wastes, PCB's and hazardous subject wastes.
- 4.1.2 Approvals under Part VIII, EPA
- 4.1.2.1 All unclassified, unregulated sewage systems treating commercial or industrial waste water,
- 4.1.2.2 Private communal sewage systems in the circumstances described in Section 4.1.3.

## 4.1.3 Approvals under Section 52 and 53, OWRA

- 4.1.3.1 private communal sewage and water works in unorganized areas where there is no agreement with the Ministry of Municipal Affairs for a local government agency (e.g., A local Services Board or a municipality to be created, or an existing municipality to be expanded) to take over the works in the event of a default,
- 4.1.3.2 private communal sewage and water works in organized areas without an agreement with the local government agency to take over the system in a default situation.

Note: Financial Assurance is not meant to take the place of an agreement with a municipal authority. The Ministry, at the time of initial approval, will continue to require a municipality, or in unorganized areas another governmental organization, to enter into a responsibility agreement for the long-term operation and maintenance of communal water works, sewage works, and sewage systems. However, financial assurance must be provided until such agreements are ratified.

4.2 Activities for which Financial Assurance is **discretionary** for the Program Director.

## 4.2.1 Private landfill sites not referred to in Section 4.1.1.1.

## 4.2.2 Other Approvals under Part V, EP Act

- 4.2.2.1 reclamation or processing operations;
- 4.2.2.2 organic waste disposal sites (e.g., canning plant wastes);
- 4.2.2.3 incineration facilities;
- 4.2.2.4 private transfer stations and waste processing sites for wastes other than those referred to in 4.1.1.2;
- 4.2.2.5 PCB storage sites;
- 4.2.2.6 waste management systems (haulers) which do not handle biomedical wastes, PCBs and hazardous subject wastes.

## 4.2.3 Approvals under Part VIII, EP Act

- 4.2.3.1 Class 7 Sewage Systems;
- 4.2.3.2 all sewage systems serving either industrial, commercial or institutional facilities for which financial assurance is not

mandatory as per paragraph 4.1.2.1.

4.2.3.3 Class A sewage systems.

4.2.4 Approvals under Section 53, *OWR Act*

4.2.4.1 industrial and milling activities that generate tailings, ash or other waste materials subject to Section 53, *OWRA*;

4.2.4.2 any sewage works in which waste materials that are generated by the sewage works, including sludges, are to be disposed of on the site of the sewage works.

4.2.4.3 any sewage works, or any part thereof, that contain waste materials, such as sludges, that are to remain on the site after decommissioning.

4.2.5 Air approvals under Section 9, *EP Act*

4.2.5.1 storage of subject waste materials from air pollution control equipment;

4.2.5.2 Conditional Certificate of Approval requiring upgrading and where there is uncertainty as to whether the equipment will work.

4.2.6 Water Taking Permits under Section 34, *OWR Act*

4.2.6.1 private undertakings which are likely to reduce the quantity or quality of water supplies of neighbours, and where conditions require remedial measures.

4.2.7 Control and Other Orders

4.2.7.1 industrial abatement programs under Section 18, *EPA*;

4.2.7.2 where an industrial or commercial site which is contaminated with hazardous materials is to be decommissioned;

4.2.7.3 operations which store subject wastes on site under Regulation 347 for more than 90 days.

4.3 The criteria for deciding when to require financial assurance in the discretionary cases are detailed in Section 5, below.

**5.0 Conditions when Discretionary Financial Assurance (section 4.2) should be required**

- 5.1 Where a required action, process or task could result in adverse effects or damages to property owners, the public, or individuals who are not employees and for which financial compensation may be required.
- 5.2 When appropriate Regional Operations Division or Approvals staff determine that a facility or operation will require decommissioning, rehabilitation or environmental clean-up measures when it is to be shut down or modified in the future.
- 5.3 When long term and/or perpetual management or monitoring of an existing or potential pollution or contamination problem is required by an order or an approval.
- 5.4 When there is reason to expect that the Regulated Party might become insolvent in the future and be unable to complete or comply with the conditions of an order or an approval.
- 5.5 When a Regulated Party or person has been convicted of violations involving pollution discharges or emissions for the specific or related problems that are being addressed in an order or approval.
- 5.6 When the Regulated Party has missed deadlines in previous orders or approvals.
- 5.7 When the Regulated Party receives an extension to a compliance date.
- 5.8 When the Regulated Party's operation or waste residuals are judged to be "high risk" in that the release of a contaminant could cause serious health, environmental or property damage including interference with the operation of private and municipal wells.

**6.0 Forms of Financial Assurance**

- 6.1 Forms of financial assurance are described in Section 131 of the Ontario *EPA*. These instruments are to be chosen by the Program Director and other MOEE staff, in consultation with the Regulated Party, in accordance with these procedures. Regulations may be made from time to time to require particular types and amounts of financial assurance in specific cases.
- 6.2 Examples of the wording for two types of instruments that can be used are presented in Appendix B.
- 6.3 Forms of financial assurance are described in more detail in Sections 9.0, 10.0, 11.0, 12.0 and 13.0 of these procedures.
- 6.4 Liability Insurance may also be considered for acceptance as financial assurance under

conditions described in Section 13.6.

## **7.0 Value of the Financial Assurance required**

- 7.1 The value or amount of the financial assurance required will be based on one or more of the following:
  - 7.1.1 the estimated capital cost of each program item, activity, facility or technology, etc. specified in, or required to comply with, an order or approval;
  - 7.1.2 the expected operating costs of the relevant program item, activity, etc. (including long-term monitoring, treatment, storage or security) over the required period specified in the order or approval;
  - 7.1.3 the quantity of the waste materials being generated, processed, stored or discharged;
  - 7.1.4 the estimated costs of cleaning up and disposing of residues of a potential spill;
  - 7.1.5 the estimated capital and long-term operating and maintenance costs (including monitoring, treatment, storage or security) of decommissioning a contaminated site or facility.
- 7.2 Where the order or approval indicates that there are several acceptable options or techniques to achieve the specified environmental requirements or objectives, the amount of the financial assurance can be based on the least-cost option or approach.
- 7.3 For each type of order or approval listed in Section 4.0 of these Procedures, the proponent, in consultation with Ministry staff, should identify program activities, items, projects, etc. that are required by, or must be implemented to comply with, conditions in the order or approval.
- 7.4 Estimates of the capital and other one-time costs and the annual operating and maintenance costs associated with each program activity, facility, etc. are to be generated and provided by the Regulated Party with reference to Appendix A.
  - 7.4.1 Expected variations in annual operating and maintenance costs over time should be noted.
  - 7.4.2 Specify the total time period or "planning period", in years, over which each project, activity, etc. is to be implemented, starting with issuing of order or approval. There is no predetermined maximum time period or planning period for which financial assurance may be required.
  - 7.4.3 Specify the year(s) in which capital/one-time costs are to be incurred and in which annual operation costs will start and finish, counting from issuing of order or approval.

- 7.4.4 Tabular schedules of these estimates over the planning period would be most helpful.
- 7.4.5 Where the planning period is 4 years or more and capital/one-time costs are incurred 4 years or more from the issuing of the order or approval, future capital/one-time and operation and maintenance costs may be discounted to Present Values using appropriate formulae and interest rates specified below.
- 7.5 Where activities, projects etc. are to be completed in 3 years or less:
- 7.5.1 if operating and maintenance is not specified in conditions of order or approval, the recommended Financial Assurance is 100% of total capital/one-time costs.
- 7.5.2 if operating and maintenance is specified in conditions of an order or approval, then the recommended Financial Assurance for most situations is 100% of total capital/one-time costs plus at least three years of annual Operating Costs.
- 7.6 Where activities, projects or technologies are to be installed or completed 4 years or more after issuing of an order or approval, or if operating costs are to start 4 or more years after issuing the order or approval, and
- 7.6.1 if operation and maintenance is not specified in conditions of order or approval, recommended Financial Assurance is either,
- 100% of the Present Value of the total capital/one-time costs, or
  - Annual Payments sufficient to reach the amount of total capital/one time costs by the year in which they are to be incurred.
- NB. Only cash or eligible government bonds can be accepted in for this Financial Assurance.
- 7.6.2 if operating and maintenance over a required, finite time period is specified in conditions of order or approval, the recommended Financial Assurance is either,
- an initial payment of 100% of Present Value of total capital/one-time costs, plus 100% of Present Value of all annual operating and maintenance costs over the planning period, or
  - Annual Payments which will accumulate over time to reach the required sum of total capital/one-time costs plus the Present Value of the total annual operating and maintenance costs over the planning periods.

The intent of this Financial Assurance is to ensure that there are sufficient funds available to pay all operating costs over the planning period.



NB. Only cash or eligible government bonds can be accepted for this Financial Assurance.

7.6.3 The Present Values of total capital/one-time costs and total annual operating costs (over a finite planning period) are to be computed using the following formula

$$PV = \Sigma(\text{sum of}) [(1/(1+i)^n) \times (FOC_n) + (1/(1+i)^n) \times (FCC_n)]$$

where PV = present value of all costs over the order or approval planning period.

$FOC_n$  = future annual operating and maintenance costs expended in year n.

$FCC_n$  = future capital costs expended in year n.

i = annual interest rate.

n = years designated as 1,2, etc. up to a pre-specified final year.

7.7 If the order or approval involves future decommissioning or rehabilitation, monitoring, treatment and disposal of effluents or emissions, or perpetual care and security of a site, without having a finite planning period specified, recommended financial assurance for this purpose is 100% of the Capitalized Value of the estimated annual operating and maintenance costs. The Capitalized Value is to be computed using the following formula:

$$CV_{oc} = \text{Annual FOC}/i$$

where  $CV_{oc}$  = Capitalized Value of operating and maintenance costs in perpetuity.

FOC = Future annual operating and maintenance costs.

i = annual interest rate.

The objective of this Financial Assurance is to deposit or accumulate an amount that will generate an annual income sufficient to cover these future annual operating and maintenance costs.

7.8 The annual interest rate to be used in the formulae noted in sections 7.6 and 7.7 or to calculate annual payments will be a rate consistent with the form of financial assurance chosen and the time period specified in the order or approval. The

minimum rate to be used is to be based upon the rate offered by the Province of Ontario Savings Office to its "Trillium Account" depositors. The maximum rate allowed is to be based on the rate of return for selected Government of Canada Benchmark Bond Yields, as published in the journal, **Bank of Canada Review**.

- 7.9 For estimating future capital/one-time costs and annual operating and maintenance costs, annual inflation rates used should be based on appropriate price indices such as the series entitled "Machinery and Equipment" and "Non-residential Construction" found in the **Bank of Canada Review**.
- 7.10 Further guidance for estimating the costs associated with different types of regulatory activities and the recommended amounts of Financial Assurance to be required are found in Appendix A.
- 7.11 Estimating relevant costs for Financial Assurance requirements.
  - 7.11.1 The Regulated Party, who is either an applicant for an approval or the recipient of an order, is responsible for providing cost estimates for the relevant activities that are proposed in response to conditions and the respective orders or approvals. In addition, explanations of how costs were estimated as well as references and sources of relevant estimation procedures should be provided. Reference should be made to Appendix A.
  - 7.11.2 If no estimates of the relevant capital and/or operating costs are provided by the Regulated Party, MOEE staff should generate relevant cost estimates with reference to Appendix A.
  - 7.11.3 In any event, estimates provided by the Regulated Party should be reviewed by MOEE staff where possible.
  - 7.11.4 If there is a disagreement between the cost estimates of the MOEE and those of the Regulated Party, details of estimation procedures from each party should be exchanged with a view to reaching agreement through negotiation. Compliance Procedure F-2 may be invoked to produce a new set of cost estimates to be used in determining Financial Assurance.
- 7.12 Where an approval or order involving future decommissioning, rehabilitating, monitoring and treatment of effluents or emissions, or perpetual care and security requires the accumulation of financial assurance in a fund over time, the payments, or the formula for calculating payments into the fund, shall be established in accordance with any relevant Regulations or procedures for determining the amounts and should be specified in the order or approval.
- 7.13 The order or approval should provide for the periodic review of financial assurance provisions in order to ensure that adequate funds are available for the specified requirements.

- 7.14 Where marketable securities and/or other negotiable instruments not covered by Section 12 of these Procedures are accepted as Financial Assurance, the market value of the securities taken should be at least 20% in excess of the agreed to amount of Financial Assurance. This premium is intended to offset the need to obtain additional financial assurance if the market value of the securities declines.
- 7.15 If a regulated party asks to establish a single financial assurance account to include more than one site, consideration may be given to this request but the minimum amount of financial assurance required should be equal to the recommended amount of Financial Assurance for the site with the highest total compliance costs.

## 8.0 Negotiating Financial Assurance Requirements

- 8.1 Financial assurance agreements and/or requirements for specific polluters may be developed by Program Directors or their designates in the following MOEE Branches:
- 8.1.1 Regional Branches;
  - 8.1.2 Environmental Approvals Branch.
- 8.2 Ministry personnel noted in Section 8.1 may solicit advice from staff from the following Divisions/Branches/Sections:
- 8.2.1 The Economic Services Branch
  - 8.2.2 The Legal Services Branch
  - 8.2.3 Financial and Capital Management Branch
  - 8.2.4 Environmental Services and Standards Division.
- 8.3 Where negotiations are to take place between the Ministry and the Regulated Party, meetings and other direct contacts with the Regulated Party should be arranged by or through the Program Director.
- 8.4 If the Regulated Party or some other interested party claims that provision of the financial assurance will cause unemployment or undue financial hardship, an economic or financial analysis will be carried out in accordance with Guideline F-14 of the **Manual of Guidelines and Procedures**.
- 8.5 If a proponent asks to establish a single financial assurance account to include more than one site, the Program Director may do so but should obtain concurrence with Divisions and Branches listed in Section 8.2 as well as the Environmental Approvals Branch and the Directors of Regions where each site or facility is located.
- 8.6 Procedures for administering the following forms of financial assurance are presented in the subsequent sections:

- 8.5.1 cash (See Section 9 below),
- 8.5.2 irrevocable letters of credit (See Section 10 below),
- 8.5.3 surety/performance bonds (See Section 11 below),
- 8.5.4 Government of Canada or provincial bonds (See Section 12 below),
- 8.5.5 agreements as required by an approval, order or regulation (See Section 13 below).
- 8.5.6 liability insurance (see Section 13 below).

## **9.0 Procedures for Administering Cash**

- 9.1 Cheques made out to the Treasurer of Ontario should be submitted to the Director of the Financial and Capital Management Branch (FCMB) of the Ministry of Environment and Energy.
- 9.2 The cheque will then be deposited into an interest-banking trust fund within the Consolidated Revenue Fund in accordance with any procedures and requirements of the Ministry of Finance.
- 9.3 The interest credited to the trust fund shall be at the rate determined in accordance with paragraph 7.8 of these Procedures and may be specified by Order in Council.
- 9.4 If cash sums are to be built up through payments over time, payments may be based on a per-unit price (e.g., \$ per tonne of waste) or an "amortization" payment calculated to accumulate to a total amount by a specific time in accordance with Section 7.6.2 of these Procedures.
- 9.5 Conditions in an order or approval should specify a sequence of events to ensure that financial assurance is posted **before** the proposed facilities or activities begin operation. For example, a Certificate of Approval for the establishment of a new waste disposal site could specify that the site may not open or operate until financial assurance has been received by the Director of the FCMB who will then notify the Program Director. If an uncertified cheque is given, the approval should state that it does not take effect until the cheque has cleared the bank.
- 9.6 Applications for refunds are sent initially to the Program Director who then forwards them to the Director of the FCMB, if approved.
- 9.7 Payments from these trust funds for any reason shall be requested by the Program Director, arranged by the Director, FCMB and authorized by other MOEE officials having appropriate authority.

- 9.8 The FCMB shall maintain records of all trust funds and issue reports regularly as required by Central Agencies and Ministry Management. Reports on each account should include, at minimum, the following:

- payments into and out of each account,
- accrued interest,
- opening and closing balances.

(See also Section 14.3)

## 10.0 Procedures for Administering Irrevocable Letters of Credit

- 10.1 Irrevocable Letters of Credit should **not** be accepted as financial assurance where growth in funds over time is expected or required.
- 10.2 Only Irrevocable Letters of Credit from financial institutions empowered to issue such instruments with business offices in Ontario may be accepted. A list of such institutions may be obtained from the FCMB or from the Ministry of Finance.
- 10.3 Irrevocable letters of credit and other supporting documents are to be delivered to the FCMB for safe-keeping in accordance with the **Manual of the Office of the Treasury**. Copies should be kept in the files of MOEE District Offices, Regional Offices, and/or the Approvals Branch.
- 10.4 A letter of credit will normally specify an expiry date.
- 10.5 Where security is required for a period longer than the expiry date of the letter of credit, the letter of credit should state that it will be renewed automatically.
- 10.6 The condition in the approval or the order which requires financial assurance should provide a renewable letter of credit stating that the issuing bank must give notice to the Crown, at least 60 days before the expiry date, that the letter of credit will not be renewed. An irrevocable letter of credit may not be renewed if the Crown advises the bank in writing that renewal is not required.
- 10.7 If notice of intent **not** to renew a letter of credit is given by the bank, alternative security satisfactory to the Program Director and the Director FCMB, must be posted at least 30 days before the expiry date.
- 10.8 If alternative financial assurance is not posted as provided in Section 10.6 or notice not to renew a letter of credit is given with no alternative security posted, the existing letter of credit is to be called and the proceeds are to be administered as a cash guarantee as set out in Section 9 of these Procedures.
- 10.9 Any approval or order should provide that, where non-cash assurance (e.g., letter of credit, surety bonds, agreements, etc.) is provided and appropriate arrangements are not made for its renewal or replacement, then cash assurance shall be immediately

posted in lieu of the non-cash instrument. (see also Section 15.5)

- 10.10 The FCMB shall maintain records of all letters of credit and prepare reports semi-annually, or more frequently, as required by Central Agencies and requested by the Ministry. (see also Section 14.3)
- 10.11 The Program Director is to review FCMB reports on letters of credit .
- 10.12 The Program Director must instruct the Director, FCMB, whether or not to call expiring letters of credit if they are not renewed. Program Director and Director, FCMB, or their designates, should co-ordinate any actions to call letters of credit.
- 10.13 As obligations under an order or approval become fulfilled, and, at the request of the Regulated Party, the Program Director will notify the bank by letter (with a copy sent to the Director of the FCMB) as to the status of the obligation; e.g., whether the amount of the letter of credit is to be reduced, or that the letter of credit is to be released. If it is to be released, the original letter of credit and any required supporting documents are to be returned to the bank.
- 10.14 Drawings on letters of credit, payments into the Consolidated Revenue Fund, reductions or release in letters of credit are to be authorized by the Program Director and the Director of the FCMB, with further authorization obtained as necessary. In the absence of any Director, an Executive Director or an Associate or Assistant Deputy Minister can authorize action.
- 10.15 The Regulated Party is responsible for all bank fees and charges associated with the letter of credit.

## **11.0 Procedures for Administering Surety/Performance Bond Agreements**

- 11.1 Surety and Performance Bonds consist of agreements or contracts among the Guarantor, the Regulated Party, and the Crown and are to be negotiated by the personnel specified in Sections 8.1 and 8.2. Advice may be obtained from the Insurance and Risk Management Section of the General Services Branch of the Management Board Cabinet and the Ontario Insurance Commission.
- 11.2 Original copies of Surety and Performance Bonds, agreements, contracts and any other relevant documentation should be delivered to the FCMB for safekeeping, with copies retained by the Program Director.
- 11.3 The FCMB shall keep records of these documents and provide reports on them annually, or more frequently, as required by Central Agencies and Ministry management. (see also Section 14.3)
- 11.4 Where surety bonds specify an expiry date, the Program Director should ensure that sufficient time is given to the life span of the surety bond to complete all requirements

of the order or approval.

- 11.5 Where security is required after the expiry date of the surety bond, the Program Director must notify the Guarantor, the Regulated Party and the Director of the FCMB. Failure to renew the surety bond, or provide a new form of financial assurance, may be cause for the Program Director to revoke the approval or enforce the order.
- 11.6 The Regulated Party is responsible for all fees and charges involved in establishing the Bond or other Agreement.
- 12.0 Procedures for administering the use of eligible government bonds as Financial Assurance**
- 12.1 In this Section, "bonds" are debt instruments issued or guaranteed by the Government of Canada or a Provincial Government and should be distinguished from surety or performance bonds.
- 12.2 Bonds used as a financial assurance should have a maturity date not over 3 years from the date on which they are deposited.
- 12.3 Bonds must be in bearer form or they must be transferred to the Government of Ontario. Consequently, Canada Savings Bonds cannot be used as financial assurance.
- 12.4 Bonds should be delivered to the FCMB for safe keeping.
- 12.5 The FCMB is to keep records of bonds that are held and report on them annually, or more frequently, as required by Central Agencies and Ministry Management. (see also Section 14.3)
- 12.6 The FCMB should take steps to monitor the value of the bonds quarterly, or more frequently if necessary, and report to the Program Director if the value falls below the required value of the financial assurance.
- 12.7 If the value of the bonds on deposit falls to a level of less than 85% of the required value of the financial assurance, the Director of the FCMB is to inform the Program Director and the Regulated Party that additional security must be provided.
- 12.8 The Program Director, in conjunction with the FCMB, may make arrangements with persons posting bonds to accept substitute bonds as security. If no other arrangements are made and a bond matures or interest payments are received, the proceeds shall be deposited and administered as a Cash Guarantee as per Section 9 of these Procedures.



**13.0 Agreements with terms specified in the approval, order or regulations**

- 13.1 Agreements or contracts for financial assurance may be required by a term or condition of an approval or an order.
- 13.2 The wording of the agreement may be negotiated in the course of developing the approval or the order.
- 13.3 Copies of the agreement and the approval or order should be filed with the FCMB for safe-keeping and reference.
- 13.4 The FCMB shall keep records of these agreements and provide reports on them annually, or more frequently, as required by Central Agencies and Ministry Management. (see also Section 14.3)
- 13.5 Where the agreement provides for holding of securities by a third party, the relevant provisions of the other sections of these Procedures shall apply. For example, Section 12.4 described how government bonds are to be held.
- 13.6 Liability insurance may be considered as financial assurance. All of the following conditions must be met in order to accept an environmental liability insurance policy in lieu of Financial Assurance:**
  - 13.6.1 A certificate is provided by the insurance company which states that the liability insurance policy will pay spills clean-up costs, the costs of other activities/conditions required by the Certificate of Approval and any costs incurred as a result of failing to comply with such conditions;
  - 13.6.2 The policy requires no deductible; if it does, it must be acceptable to the Ministry Program Director.
  - 13.6.3 The policy should have an option for extending coverage for 3 years or longer following termination of operations covered by the insurance policy.
  - 13.6.4 Should the insurance carrier decide to cancel the policy, for any reason, including non-payment of premium, the insurer must give the policy holder and the Ministry Program Director at least 6 months notice of intent to cancel.
- 13.7 Advice and guidance may be sought from the Insurance and Risk Management Section of the Management Board of Cabinet and/or from the Ontario Insurance Commission in the Ministry of Finance.



#### **14.0 Periodic Reviews**

- 14.1 In addition to the reporting and reviews specified in previous paragraphs, the following types of review of each financial assurance should be undertaken as often as is necessary:
- 14.1.1 The FCMB should make inquiries at least once a year as to the status and solvency of the persons and institutions that provide financial assurance to the Superintendent of Deposit Institutions or the Superintendent of Insurance in the Ontario Ministry of Financial Institutions or to the Canadian Inspector General of Banks.
  - 14.1.2 The amount of the financial assurance should be reviewed by the Program Director to ensure that the amount of financial assurance is sufficient to cover any increases in expected capital and/or operating costs or other program requirements. (see Section 7.0)
  - 14.1.3 Where conditions in an order or approval do not specify the return or cancellation in whole or in part of financial assurance, the periodic review should determine whether the financial assurance should be returned in whole or in part.
- 14.2 The use of Government bonds and debt instruments as assurance for a period longer than 3 years is not encouraged because the value of these instruments could fluctuate according to economic conditions. If bonds are used, it will be necessary to monitor the value of the instrument, to compare this value against the expected amount of money that will be required in the future for decommissioning or clean-up and to require the deposit of additional assurance as necessary.
- 14.3 For each order or approval that has a financial assurance requirement, at least a copy of the following is to be sent to the FCMB for retention and reference:
- the front page of the order or approval;
  - the signature page or pages;
  - the pages containing all assurance provisions and requirements.

#### **15.0 Conditions contributing to a default**

- 15.1 Specific conditions contributing to a default should be clearly specified in the conditions of the order or approval. These conditions should include one or more of the following:
- 15.1.1 The Regulated Party misses two successive deadlines in his compliance schedule;
  - 15.1.2 After one half (1/2) of the time allotted to the implementation of the environmental measure has expired and the Regulated Party can provide no

evidence (ie. work orders, invoices, inspection reports from MOEE staff) that steps are in progress to comply with the conditions of the order or approval;

- 15.1.3 The length of time a site or facility can stay closed on a "temporary" basis before it must commence closure or permanent rehabilitation should be negotiated beforehand with the Regulated Party and specified in the order or approval.
- 15.2 Any violation of a specific order or approval (including any other order or statute) can be specified to be a default.
- 15.3 The following occurrences should trigger the conversion of a documentary non-cash financial assurance into cash or a more secure form of documentary financial assurance. For example:
  - 15.3.1 Notice is received of proposed cancellation or non-renewal of a letter of credit or of some other form of Financial Assurance and a satisfactory alternative form of assurance has not been arranged (sufficiently) before the cancellation of expiry of the existing financial assurance.
  - 15.3.2 Notice is received of the impending insolvency of the Regulated Party or the Surety.
- 15.4 Documentation which specifies the circumstances of the default must be prepared by the program Director within two weeks after determination of a default. Assistance may be obtained from staff in the Legal Services Branch, the Investigations and Enforcement Branch and the Economic Services Branch. Copies of such documentation are to be sent to the Director, FCMB, the Assistant Deputy Minister for the Division in which the Program Director is located and the Regulated Party.
- 15.5 The Investigations and Enforcement Branch must be advised of any failure to deposit required financial assurance or of premature expiry of a financial assurance where satisfactory alternative arrangements have not been made, or of any other condition of default which involves serving notice on the Regulated Party.
- 15.6 Except in emergency situations, communication should be made to the Regulated Party at least 6 weeks prior to taking steps outlined in Section 16. The agency (e.g., bank or surety company) should also be notified about an impending default.

## **16.0 Responses to a default**

- 16.1 It is presumed that the Regulated Party has been given adequate notice of the conditions of the default together with opportunities to rectify these deficiencies.
- 16.2 If financial assurance has been given in cash, bonds, a letter of credit, or similar security, all or part of the financial assurance amount may be claimed by the Program Director, with co-operation from the Director, FCMB, with the appropriate

authorization. Where necessary, the proceeds may be transferred to a special account in the Consolidated Revenue Fund. Any interest that has been earned on this money will accrue to the amount of the financial assurance.

- 16.3 Where financial assurance or its proceeds are to be used to complete the action, facility or environmental measure as specified in the order or approval, a director's order is required to authorize such expenditure. This order can be appealed.
- 16.4 The order or approval which requires posting of the financial assurance should normally specify as conditions the purposes to which the financial assurance can be applied.
- 16.5 If the financial assurance given is a surety or performance bond, or other type of agreement that is not readily convertible to cash, the provisions of the agreement that is part of a surety or performance bond will apply. This may include hiring, by the Ministry, of a different contractor to carry out or complete the required works.
- 16.6 Where facilities or sites are abandoned, financial assurance will be expended on required decommissioning, clean-up and other necessary tasks.
- 16.7 Where it is not feasible to utilize outside contractors to complete required environmental works or measures as required by the order or the approval (e.g., where access cannot be gained to an abatement facility or where compliance requires a process change within a manufacturing plant), the Ministry shall realize on the assurance and withhold any funds until compliance is achieved. In the meantime, other enforcement actions and sanctions (e.g., prosecutions) may be applied.
- 16.8 The Program Director or designated staff, must document steps leading to the default and steps taken to call, obtain and utilize, the financial assurance.

#### **17.0 Non-Ministry Directors**

Where a Program Director is employed in a local board of health or regional municipality or elsewhere outside the Ministry of Environment and Energy, the Program Director should contact a Ministry Regional Office or the Ministry Legal Services Branch to develop financial assurance requirements. This consultation will ensure consistency in application and the wording of financial assurance forms and conditions. The requisite notification and copies of relevant documents should be sent to the Financial and Capital Management Branch as specified in Section 13 of these Procedures.

**APPENDIX A**

**COST ESTIMATION FOR DETERMINING THE AMOUNT  
OF FINANCIAL ASSURANCE FOR  
SPECIFIC REGULATORY ACTIVITIES**

## Introduction

The cost components and procedures outlined in this Appendix are intended to help stakeholders and MOEE staff estimate the relevant costs associated with specific program activities, projects, facilities, technologies, etc. which may be required to comply with each type of regulatory activity identified in Section 4.0 of the Procedures.

Recommended amounts of financial assurance based on these cost estimates are given for some types of regulatory activities. Further guidance for setting the amounts of financial assurance is found in Section 7.0 of these Procedures.

Two key types of costs are to be estimated for each program activity, project, facility, technology, etc.

- **Capital/one-time costs** - Costs associated with purchase of equipment, installation of equipment, construction of buildings and other improvements, one-time consultant services, architect services, laboratory expenses, etc.
- **Recurring (annual) expenses and costs** - Costs for operation and maintenance, labour, materials, on-going contract services, monitoring, etc.; expressed on an annual basis.

This Appendix is organized in the same order as the types of regulatory activities listed in Section 4.0 of the Procedures.

Users of these procedures are cautioned against double counting when developing cost estimates.

Users are also reminded that the purpose of financial assurance is to:

- ensure that sufficient funds are available to comply with the conditions of an order or approval;
- assemble sufficient funds for decommissioning, clean-up, rehabilitation and perpetual care at future dates.

Financial assurance may not be retained as a penalty.

Financial assurance is not normally required of municipalities and other public bodies or institutions.

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### A.1 Private Landfill and Waste Disposal Sites

A.1.1 Financial assurance will be required to cover the costs of:

- emergency close-out (e.g., before the site capacity is reached);
- contingency programs for the treatment of leachate, hydrogeological studies or control of methane gas, if necessary;

- a planned close-out whether or not the site reaches approved capacity;
- long-term surface and ground water and gas monitoring program.

#### A.1.2 The cost of emergency close-out

- A.1.2.1 Identify and determine the amount of fill and cover, hauling, grading and revegetation required at the site.
- A.1.2.2 Estimate the relevant costs of each of these activities, and convert these costs to a per-hectare or a per-acre basis.
- A.1.2.3 As only a part of the landfill capacity will likely be used up, only that portion of the close-out costs associated with emergency closure at the particular site would have to be incurred.
- A.1.2.4 Where A.1.2.3 applies, a maximum of 50% of the close-out costs for the entire site should be collected as financial assurance for emergency close-out.

#### A.1.3 The cost of contingency program

- A.1.3.1 Estimate the costs of the facilities specified in the contingency program, e.g., interceptors, trenching and treatment equipment.
- A.1.3.2 The annual operating and maintenance costs of these facilities should be estimated.
- A.1.3.3 The amount of financial assurance should equal the estimated one-time capital costs of the facilities required for the program plus at least one year's operating costs. The interest earned on these deposits can be used to build up the financial assurance to an amount sufficient to general annual income that will cover the estimated annual operating costs.

#### A.1.4 The cost of the close-out plan

- A.1.4.1 Determine the amount of fill and cover, grading, revegetation and facilities such as purge wells and treatment equipment that will be required for the site.
- A.1.4.2 Estimate the one-time capital costs of the plan.
- A.1.4.3 Estimate the annual operating and maintenance activities that will be required for the site and their costs.

- A.1.4.4 The amount of financial assurance should be equal to the estimates one-time capital costs plus an amount that will build up the financial assurance to an amount that will generate an annual income sufficient to cover the estimated annual operating and maintenance costs for the "contaminating lifespan" (i.e. "...the time period during which the landfill will produce contaminants at levels that could have an unacceptable impact if they were to be discharged into the surrounding environment of the landfill.") unless a shorter period can be justified. Where no finite planning period or "contaminating lifespan" is specified for maintenance and monitoring, the capitalized value of the required annual operating, maintenance costs should be the basis for determining the amount of financial assurance.
- A.1.4.5 If the provision of financial assurance is structured to accumulate a fund over time the amount required should normally be fully accumulated at least 5 years prior to closing.
- A.1.5 The cost of long-term monitoring
  - A.1.5.1 Determine the number of locations to be monitored for surface and ground water and landfill gas;
  - A.1.5.2 Determine the parameters to be analyzed and frequency of collecting samples for analysis;
  - A.1.5.3 The amount of financial assurance should be at least equal to the estimated costs of installing the monitoring facilities that are not to be provided for operational purposes and the annual cost of collecting samples, analyzing samples, and producing a report by a consultant to present an interpretative analysis of the results for the "contaminating lifespan" (i.e. "...the time period during which the landfill will produce contaminants at levels that could have an unacceptable impact if they were to be discharged into the surrounding environment of the landfill.") unless a shorter period can be justified. As in Section A.1.4.4, if no finite planning period or "contaminating lifespan" is specified for maintenance and monitoring, the capitalized value of the required annual operating, maintenance costs should be the basis for determining the amount of financial assurance.

## **A.2 Private Transfer Stations and Waste Processing Sites**

A.2.1 The key considerations in determining the amount of financial assurance for these facilities are:

- the equipment and facilities on the site;
- the total volume of waste on site;
- the nature of the waste/material on site;
- the extent of soil contamination at the site.

A.2.2 Financial assurance should cover the costs of:

A.2.2.1 hauling, treating and disposing of the waste materials. NB A detailed cost estimate of these activities is preferable to a "rule of thumb" figure such as the "\$1 per litre of waste generated".

A.2.2.2 dismantling and disposal of equipment or other facilities;

A.2.2.3 excavation and disposal of contaminated soil, if necessary;

A.2.2.4 site rehabilitation.

A.2.3 These are all one-time costs which could be incurred at any time after the Certificate of Approval has been issued. Therefore, financial assurance should be sufficient to cover these costs from the outset of the activity.

A.2.4 Where environmental monitoring and reporting over a period of 5 years or longer are required for these establishments, such costs should be estimated and included in the amount of financial assurance.

A.2.5 If the transfer station or processing facility will handle waste materials for which there is no identified place or practical method of disposal in Ontario, an approved method of disposal must be identified and the costs of this method estimated. These costs should be included in the financial assurance required from the outset of the activity.

## **A.3 Private Waste Management (Haulage) Systems**

A.3.1 The purpose of financial assurance for this activity is to provide money for clean up of spills and for the clean up of abandoned vehicles and storage areas.

A.3.2 There are two main types of hauler operations for which Certificates of



Approval are issued: subject wastes and solid, non-hazardous wastes.

- A.3.3 As of Fall 1993, subject waste haulers are being required to purchase at least \$1 million in liability insurance.
- A.3.4 An alternative procedure for calculating the amount of financial assurance should be based on the relative hazard posed by the material being hauled, the accident record of the applicant and other similar carriers and the likely costs of clean up of either a spill or the applicant's trucks or storage facilities where there is no liability insurance or financial assurance in place to cover the expense.

**A.4 Private Communal Sewage Systems, Sewage Works or Water Works Without an Agreement that a Government Agency Will Take Over the System**

- A.4.1 Information on the specifications of the facility should be provided so that MOEE personnel may verify capital and operating cost estimates or prepare their own.
- A.4.2 The amount of financial assurance required is initially to cover 3 years of operating costs plus 15% of the capital costs, which would provide funds for upgrading or clean up that may be required after a default and for an interim take-over until the municipal or other local organization takes over operations or replaces the works.

**A.5 Approvals Under Part V, EPA**

- A.5.1 These types of facilities include recycling operations, incinerators, PCB storage sites, organic waste disposal sites and waste management systems (e.g., haulers) which do not handle subject wastes. Financial assurance is discretionary for these operations.
- A.5.2 The procedures for calculating the amount of financial assurance required for these types of facilities will be the same as those defined for similar types of facilities described in Sections A.1 (private landfill and waste disposal sites), A.2 (private transfer stations and waste processing sites), or A.3 (private waste management [haulage] systems).
- A.5.3 As experience and data are obtained, revised procedures will be developed for some activities or facilities.

**A.6 Approvals Under Part VIII, EPA**

- A.6.1 The amounts of financial assurance that may be required for these facilities (e.g., sewage holding lagoons and certain communal sewage systems) must cover any expected costs of removal of sewage and sludge or their continued interim operation in the event of a default.
- A.6.2 The cost components to estimate for Class 7 sewage systems are found in Section A.7, below.

**A.7 Approvals for Industrial and Milling Activities that Generate Tailings, Ash or Other Waste Materials Subject to Section 53, OWRA**

- A.7.1 Financial assurance may be required to finance site closure and rehabilitation of tailings or other waste material storage areas. Financial assurance should be based on one-time capital costs plus funds for long term (perpetual) maintenance and care.
- A.7.2 If the Regulated Party is a mining company, a mining plan (which projects production rates, ore-body life span and required tailings area) and a closure plan (which details rehabilitation and revegetation to be undertaken) are to be supplied with the application. Cost estimates associated with the closure plan should also be submitted.
- A.7.3 The cost of environmentally acceptable mill tailings management includes:
  - A.7.3.1 site preparation (including cutting timber from the tailings area, grading and containment works);
  - A.7.3.2 cover (in some areas) and grading of tailings area;
  - A.7.3.3 revegetation;
  - A.7.3.4 long term monitoring and maintenance of dams and treatment facilities.
- A.7.4 The amount of financial assurance required should include the capital costs of closure and rehabilitation which will be incurred if the mine or milling operation closes prematurely plus an annual payment that would generate sufficient funds in the future to pay for closure, rehabilitation and long term maintenance.
- A.7.5 The quantity or area of tailings that are generated each year should be reported so that sufficient funds can be accumulated for closure if the mine is closed prematurely.

**A.8 Approvals for Operations which Discharge into Surface Waters Subject to Section 53, OWRA or to Ground Waters subject to Part VIII, EPA.**

- A.8.1 Financial assurance may be required to ensure that conditions on a Certificate of Approval are complied with on time.
- A.8.2 Cost estimates of the required abatement or preventative systems and activities should be provided by the Regulated Party. If such estimates are not submitted, Compliance Guideline F-2 of the Ministry of Environment and Energy may be invoked to generate these estimates.
- A.8.3 Financial assurance would normally be equal to 100% of the capital costs of implementing the required abatement or preventative systems. If the program is to be phased in over 4 or more years, the recommended amount of financial assurance is equal to future capital/one-time and operation and maintenance costs discounted to Present Values using appropriate formulae and interest rates.

**A.9 Air Approvals under Section 9, EPA**

- A.9.1 Financial assurance should cover the costs of collection, storage and disposal of toxic or hazardous waste materials from air pollution control equipment (see Section A.1 and A.2).
- A.9.2 Where a Conditional Certificate of Approval is issued and there is uncertainty as to whether the new equipment will work, financial assurance should be sufficient to cover the cost of replacing the equipment with control equipment known to control the emissions in question to an acceptable degree.

**A.10 Water Taking Permit under Section 34, OWRA**

- A.10.1 The amount of financial assurance should be equal to the cost of providing alternative water supplied to those parties who become affected by the activity of the Regulated Party under the permit. If the most suitable alternative supply is a new well or a pipeline to the affected party or parties, the financial assurance should be based on the one-time capital costs. If the most suitable alternative is water delivery, whether temporary or long term, the amount of financial assurance should be sufficient to cover these cost as long as is necessary.

**A.11 Industrial Abatement Programs under Section 18, EPA**

- A.11.1 Cost estimates of the required abatement or preventative systems should be provided by the Regulated Party. If such estimates are not forthcoming, or if Ministry staff have reason to believe that the estimates under-state the true costs of the project, Compliance Guideline F-2 of the Ministry of the Environment and Energy and may be invoked.
- A.11.2 Financial assurance for these programs would normally be equal to the capital costs of the required abatement or preventative systems. If the program is to be phased in over 3 or more years, the amount of financial assurance required in any one year need only be equal to the capital costs of projects to be completed during the current and the year immediately following.

**A.12 Decommissioning of Contaminated Industrial or Commercial Sites**

- A.12.1 The same types of activities and costs identified and discussed in Section A.2 may be applicable for decommissioning contaminated sites.
- A.12.2 The cost estimates on which to base Financial Assurance commitments may be the minimum expenses needed to bring the site up to standards or guidelines that may be issued from time to time by the Ministry of Environment and Energy.

**A.13 Operations which Store Subject Wastes under Regulation 347**

- A.13.1 See relevant information in Section A.22

**APPENDIX B**

**EXAMPLES OF FINANCIAL ASSURANCE**

**INSTRUMENT DOCUMENTS**

N.B. The documents are presented as examples only and are not required forms for Financial Assurance. However, if forms provided by issuing institutions (e.g. Banks, Surety Companies) are presented by approval applicants or recipients of orders, these forms should be reviewed by Ministry legal, technical and administration staff to ensure that provisions of Part XII of the *Act*, conditions of the order or approval and the intent of the Procedures are preserved and implemented.

**EXAMPLE OF A SURETY BOND**  
*ENVIRONMENTAL PROTECTION ACT*

BOND NO: \_\_\_\_\_ AMOUNT: \_\_\_\_\_ \$

Know all men by these presents that we, \_\_\_\_\_ (hereinafter called the "Principal") and \_\_\_\_\_ (hereinafter called the "Surety") are jointly and severally bound unto Her Majesty the Queen in Right of the Province of Ontario, hereinafter called the "Obligee", in the sum of \_\_\_\_\_ dollars ( \$ ) lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

WHEREAS the Principal is [desirous of obtaining certificates of Approval or provisional certificates of approval] from the Ministry of Environment and Energy to operate [where disposal sites on

- A. location 1
- B. location 2
- etc.]

WHEREAS the Principal must furnish a financial assurance to the Ministry of Environment and Energy pursuant to Part XII of the *Environmental Protection Act* with respect to \_\_\_\_\_, as approved under the \_\_\_\_\_ Certificate of Approval, No. XXXXXX, and all amending Notices of Amendment.

In the event there is a default by the Principal or its heirs, executors, administrators, successors or assigns in carrying out any of their obligations under [the *Environmental Protection Act*] with respect to [either waste disposal site], the aforesaid sum shall be paid forthwith on written demand to the Treasurer of Ontario to be held for purposes of Part XII of the *Environmental Protection Act* and \_\_\_\_\_ and the Principal and the Surety each consent to the Crown obtaining, on written notice, summary judgements for the full

amount secured hereunder if payment is not made forthwith upon demand;

Now the condition of the above obligation is such that if the Principal shall well and truly, in all respects duly fulfill, execute and observe all terms and conditions and requirements of [the *Environmental Protection Act*] with respect to \_\_\_\_\_, then this obligation shall be void and of no effect but otherwise shall be and remain in full force, virtue and effect.

Nevertheless if the Surety at any time given TWO (2) calendar months' notice in writing to the Principal and to the Ministry of Environment and Energy of its intention to put an end to the Suretyship hereby entered into, then this bond and all accruing responsibility thereunder shall from and after the last day of such two calendar months aforesaid cease and determine except insofar as the Principal has made default prior to the said last day of such period.

Nevertheless, the obligation of the Principal or the Surety for this bond or renewal will be limited to the amount stated above or the amount stated on the renewal certificate provided that the amount stated on a renewal certificate shall not be less than the amount stated above or on the most recent renewal certificate unless the Director under the *Environmental Protection Act* has consented in writing to a lower amount.

This bond will be valid for the term from \_\_\_\_\_ to \_\_\_\_\_ and shall be automatically renewed without further documentation from year to year thereafter unless terminated as aforesaid provided that the Surety may, if it wishes, issue certificates evidencing such renewal.

Any notice hereunder may be given,

- (a) in the case of the Obligee by prepaid mail to:  
[insert Regional Director's address]
- (b) in the case of the Principal by prepaid mail to:
- (c) in the case of the Surety by delivery to or by prepaid mail to:

or such other address as the recipient has from time to time given the sender written notice of change of address provided such written notice specifies it is given with respect to \_\_\_\_\_ and this Bond and the Surety may not give notice specifying an address outside of Metropolitan Toronto or the Municipality specified in (c) without the written consent of the Obligee.

Any notice by the Obligee may be signed by the Program Director of the \_\_\_\_\_ Region (i.e., Central Region, Northwestern Region, etc.) of the Ministry of Environment and Energy, the Director of the Financial and Capital Management Branch of the Ministry of Environment and Energy, the Deputy Minister of Environment and Energy, the Minister of Environment and Energy or such other person as the Deputy Minister of Environment and Energy or Minister of Environment and Energy appoints in writing for the purpose.

IN WITNESS WHEREOF this Bond has been duly signed, sealed and delivered.

Legal Name of Surety

per: \_\_\_\_\_ c/s  
Office Held

Legal Name(s) of Principal

(seal)

\_\_\_\_\_  
(Use appropriate style of signature depending on whether individual, sole proprietor, partnership or corporation)

[Change words in brackets to fit circumstances; in several places "and the *Ontario Water Resources Act*" would be added for *OWRA* orders and approvals].

(The Bond Form Ends Here)

(The order or approval should have a provision such as:

"X. The (description of recipient) shall, at all times, have a deposit with the Treasurer of Ontario in the sum of at least \$ \_\_\_\_\_ as financial assurance with respect to this [order/approval] under Part XII of the *Environmental Protection Act*, provided that if the Program Director accepts documentary security in lieu of this requirement and such security is proposed to be terminated or otherwise become impaired without the written consent of the Program Director, which consent the Program Director may give if he has determined financial assurance is no longer required or he has received other financial assurance in form satisfactory to him, the said sum shall be immediately deposited with the Treasurer".

This condition allows the Ministry to call the security and convert it to cash in the event it is not renewed or notice is given by the Surety Company that it intends to terminate the surety bond. (If the solvency of the Surety company is uncertain, this condition may not be sufficient.)



**DRAFT FORM OF IRREVOCABLE LETTER OF CREDIT**

(To be typed on Bank Letterhead)

**Her Majesty the Queen in Right  
of Ontario as Represented by  
the Minister of Environment and Energy**

We hereby authorize you to draw on the \_\_\_\_\_  
\_\_\_\_\_ Bank for account of \_\_\_\_\_  
\_\_\_\_\_ Limited, \_\_\_\_\_ Ontario, an aggregate amount of \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_) of lawful  
money of Canada available by drafts at sight. Pursuant to the request of our customer, \_\_\_\_\_  
\_\_\_\_\_ Limited, we hereby establish and give you an irrevocable Letter of  
Credit in your favour which may be drawn on by you at any time and from time to time upon  
written demand for payment made upon us by you, which demand we shall honour without  
enquiring whether you have a right as between yourself and our said customer to make such  
demands, and without recognizing any claim of our said customer. This Irrevocable Letter of  
Credit will continue up to \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_ and will be  
automatically renewed for one year on the same terms and conditions including this one for  
renewal unless we give you at least 60 days written notice that it will not be so renewed and  
you may call for payment on the full amount outstanding under this Letter of Credit at any  
time prior to that date should this Irrevocable Letter of Credit not be renewed.

Partial drawings are permitted.

Any bill drawn or payment made hereunder shall be in favour of the Treasurer of Ontario.

Any bill drawn may be drawn by you or by the Assistant Deputy Minister, Regional  
Operations Division; the Assistant Deputy Minister, Corporate Resources Division; or such  
other Assistant Deputy Minister or Director as you from time to time authorize in writing.

Your claim under this Letter of Credit must be in the form of a sight draft drawn on the \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_, Ontario quoting our Letter of Credit # \_\_\_\_\_  
\_\_\_\_\_ dated \_\_\_\_\_ 19\_\_.

We hereby agree with you that bills drawn in compliance with the terms of this credit shall  
be duly honoured upon presentation at the drawer's bank.

\_\_\_\_\_  
Branch Manager

**MANUAL OF GUIDELINES AND  
PROCEDURES**

**PART G - EMERGENCIES & SPILLS**

**December 31, 1994**

## PART G - EMERGENCIES AND SPILLS

### Chapter Contents

- G-1 Role of the Ministry in Spills and Emergencies
  - G-1-1 Spill Clean-up Options
  - G-1-2 Planning for Spill Contingencies (**available from Public Information Centre as PIBS# 2821-02**)
- G-2 Spills Action Centre Operations
- G-3 Environmental Security Account

**GUIDELINE G-1**  
**(formerly 13-01)**

**Role of the Ministry in Spills and Emergencies**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part X*  
*Emergency Plans Act*

**Responsible Director:**

Assistant Deputy Minister, Regional Operations Division

**Last Revision Date:**

April, 1994

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**SYNOPSIS**

The primary purpose of this guideline is to describe the role and responsibilities of the Ministry during spills and emergencies.

Generally, the Ministry is the lead regulatory agency for spills occurring in the Province. Exceptions to this include ship-source and international boundary water spills, for which the Canadian Coast Guard assumes the lead, and spills at federally regulated facilities, for which Environment Canada assumes the lead. Police, fire or health officials normally provide the lead for incidents involving threats to human health, safety, life and property. The Ministry is responsible for providing support during these types of emergencies.

**1.0 Definitions****Spiller:**

- (a) for purposes of spill reporting responsibilities, the spiller is defined as "every person who has control of a pollutant that is spilled and every person who spills or causes or permits a spill of a pollutant that causes, or is likely to cause, an adverse effect"; or,
- (b) for purposes of spill clean-up responsibilities, the spiller is defined as "the owner of a pollutant and the person having control of a pollutant that is spilled and that causes or is likely to cause an adverse effect".

**Spill:**

A discharge of a pollutant into the natural environment from or out of a structure, vehicle or other container which is abnormal in quality or quantity in light of all the circumstances of the discharge. If a spill causes, or is likely to cause, any of the following adverse effects, it must be reported and cleaned up:

- (a) impairment of the quality of the natural environment for any use that can be made of it;
- (b) injury or damage to property or to plant or animal life;
- (c) harm or material discomfort to any person;
- (d) adverse effects on the health of any person;
- (e) impairment of the safety of any person;

- (f) the rendering of any property or plant or animal life unfit for use by humans;
- (g) the loss of enjoyment of normal use of property; or,
- (h) interference with the normal conduct of business.

**Minor Spill:**

A spill of such magnitude and nature that it does not cause significant adverse effects or public concerns, where the spiller can, utilizing his/her own resources, undertake the necessary measures to control, contain and clean up the material spilled

**Moderate Spill:**

A spill of such magnitude and nature that it causes significant adverse effects in the immediate vicinity of the spill, where the resources under a municipal or co-operative contingency plan may be required to effectively contain and clean up the material spilled

**Major Spill:**

A spill of such magnitude and nature that it presents a hazard to human health or causes serious adverse effects over a wide area, and for which the Ministry may be required to assume control of the clean-up and restoration activities

**Emergency:**

Defined by the *Emergency Plans Act* as: "A situation caused by the forces of nature, an accident, an intentional act or otherwise that constitutes a danger of major proportions to life or property"

**2.0 Spills****2.1 Role of the Ministry**

The role of the Ministry is to assess the environmental impact of spills and, as a regulatory agency, enforce the duties and provisions imposed by any applicable legislation administered by the Ministry.

**2.2 Responsibilities**

- (a) The Ministry shall receive notification and information with respect to spills of pollutants to the natural environment and take measures to ensure that spills are responded to promptly and effectively.

- (b) The Ministry shall support and advise other agencies that take charge of spills under their jurisdiction (e.g., the Canadian Coast Guard for ship-source spills and Environment Canada for spills on federally regulated facilities).

### **2.3 Scope of Ministry's Actions During Spills**

The Ministry, without jeopardizing staff safety, shall:

- (a) determine the nature and extent of environmental damage caused by the spill;
- (b) where applicable, consult with health and safety or labour agencies;
- (c) recommend appropriate response procedures, as required;
- (d) evaluate the adequacy of the containment, clean-up and disposal efforts;
- (e) enforce the duties imposed on the discharger and others;
- (f) when necessary, facilitate or initiate prompt containment, clean-up and disposal measures, in accordance with Procedure G-1-1: "Spill Cleanup Options";
- (g) make recommendations with respect to procedures or equipment for spill prevention, where applicable; and,
- (h) document all findings, actions and recommendations.

### **2.4 Spill Responsibilities**

The following section outlines the ways in which various parties exercise their responsibilities during minor, moderate and major spills. It also clarifies the Ministry's role during these three categories of spills.

#### **2.4.1 Minor Spill**

- (a) The spiller shall take immediate measures to control and contain the spill.
- (b) The spiller shall notify the Ministry and the municipality and, in some situations, the owner and person in control, if they are not already aware.
- (c) The spiller shall clean up the spilled pollutant and restore the natural environment using his/her own resources or those of a contractor.
- (d) Public agencies (municipal, Provincial or Federal, depending on the circumstances) shall maintain surveillance where necessary and provide advice



to the spiller or the spiller's forces.

- (e) The Ministry shall provide advice and direction while enforcing the duties and responsibilities imposed by Ministry legislation. The need for on-site Ministry inspection/surveillance is assessed on a case-by-case basis.

#### **2.4.2 Moderate Spill**

- (a) The spiller shall take immediate measures to control and contain the spill.
- (b) The spiller shall notify the Ministry and the municipality, and in some situations, the owner and person in control, if they are not already aware. The spiller may contact an industry co-operative for assistance, if needed.
- (c) The municipality or industry co-operative agency shall perform appropriate contingency action, as required. Contractor services shall be obtained, as needed.
- (d) Public agencies shall maintain surveillance, where necessary, and provide advice to those in control.
- (e) The Ministry shall provide advice and direction while enforcing duties and responsibilities imposed by Ministry legislation. The need for prompt on-site Ministry inspection/ surveillance is assessed on a case-by-case basis.

#### **2.4.3 Major Spill**

- (a) The spiller shall take immediate measures to control, curtail/contain and clean up spilled material.
- (b) The spiller shall notify the Ministry and the municipality, and in some situations the owner and person in control, if they are not already aware.
- (c) The Ministry, in consultation with other agencies, shall assume control of containment, clean-up and disposal as required. Prompt Ministry on-site inspection is essential.
- (d) Minister's Directions or Orders under Section 94 or Section 97, respectively, of the *Environmental Protection Act*, respectively, shall be issued, as required, for cost recovery, right of entry and limiting liability purposes. The Ministry shall invoke the "Province of Ontario Contingency Plan for Spills of Oil and Other Hazardous Materials", as appropriate, to obtain additional assistance from Provincial and Federal agencies; or the Ministry shall contract the resources of the private sector.

- (e) The Ministry shall enforce duties and responsibilities imposed by Ministry legislation.
- (f) Public agencies shall provide advice, assistance and necessary services, as required.

#### **2.4.4 Further Details**

Further details on spill responsibilities are available from Procedure G-1-2: "Planning for Spill Contingencies" (A Supplement to the Province of Ontario Contingency Plan for Spills of Oil and Other Hazardous Materials).

### **2.5 Province of Ontario Contingency Plan for Spills of Oil and Other Hazardous Materials**

The Plan was developed pursuant to Order-in-Council 1487/75 and provides a framework for co-ordinating and utilizing available government resources to deal with the containment, clean-up and disposal phases of spills or spill-related emergencies. The Plan is subordinate to plans which address the protection of life or property and augments the Federal Marine Plans and Joint Canada/U. S. Marine Emergency Plan.

The Plan may take effect when:

- (a) the responsible party(ies) defaults on his/her duty to respond, and the spill is of such magnitude that it must be dealt with by the Province;
- (b) the source of a spill cannot be readily established and a timely response is essential; or,
- (c) upon request for assistance from the discharger or a municipality.

A Regional Director of the Ministry has the authority to invoke the Plan.

## **3.0 Emergencies**

### **3.1 Role of the Ministry**

The role of the Ministry is to assist the agency (e.g., police, medical, health or fire authorities) in control of an emergency involving a discharge or potential discharge to the environment.

### **3.2 Responsibilities**

- (a) Responsibilities for taking control of an emergency are set out in the *Emergency Plans*

Act and Order-in-Council 1577/93.

- (b) The Ministry will support and advise other agencies in the control of an emergency.

### **3.3 Scope of Ministry's Actions During Emergencies**

For the environmental or spill-related component of an emergency, the Ministry shall, without jeopardizing staff safety, in consultation with the agency in control of an emergency:

- (a) determine the nature and extent of environmental contamination or damage which may be caused by the emergency by providing modelling and monitoring services, in accordance with the Ministry's capability and expertise;
- (b) provide information and advice requested by a Medical Officer of Health, in accordance with the Ministry's capability and expertise;
- (c) recommend appropriate procedures to the agency in charge of the emergency, when necessary;
- (d) evaluate the adequacy of clean-up and disposal efforts;
- (e) enforce the duties imposed on any persons responsible; and,
- (f) document all findings, actions and recommendations.

### **3.4 Provincial Emergencies**

In exceptional circumstances, the Province may assume control of an emergency. The Premier may declare a Provincial Emergency and designate a Minister of the Crown as the Lead Minister pursuant to the *Emergency Plans Act*. The Minister of Environment and Energy may be so designated for spill-related emergencies. During these types of emergencies, the scope of Ministry action may go beyond that listed in Section 3.3.

## **4.0 Ministry Administration for Spills and Emergencies**

### **4.1 Reporting**

The Ministry's Spills Action Centre (SAC) provides a province-wide, toll-free service for the reporting of spills and other urgent environmental matters on a 24-hour basis (see Guideline G-2 for details on SAC responsibilities).

Ministry staff who receive reports of spills and emergencies are required to relay details to the SAC promptly.

## **4.2 Ministry Field Response Levels**

The Ministry has established the following three levels of field response for spills and emergencies.

### **LEVEL 1 (District Response)**

Level 1, or district level response, is provided by district abatement staff during business hours and by staff designated as Environmental/Emergency Response Personnel (ERP) during off-hours. Their responsibility for spills, or during emergencies with a spill component, is to provide or to facilitate the functions listed in Sections 2.3 and 3.3 of this guideline and to trigger the next level of response, when necessary.

During Level 1 responses, district staff may receive advice or assistance from other parts of the Ministry, such as the Environmental Monitoring and Reporting Branch, the Legal Services Branch and the and the Communications Branch.

### **LEVEL 2 (Regional Response)**

Level 2 response is provided through expertise and resources available at the Ministry Regional level. This may include:

- (a) providing back-up staff and equipment for complex or prolonged incidents, in order to fulfil the functions listed in Sections 2.3 and 3.3 of this guideline;
- (b) providing air or water modelling or monitoring, in accordance with the specific Region's capability;
- (c) providing support, guidance and approval to initiate Section 94 directions, Section 96 approvals or Section 97 orders (*EP Act*);
- (d) triggering the next level of response.

During a Level 2 response, regional staff may receive advice or assistance from other parts of the Ministry, such as the Environmental Monitoring and Reporting Branch, the Legal Services Branch and the Public Affairs and Communications Branch.

### **LEVEL 3 (Ministry Response)**

Level 3 response utilizes additional on-site Ministry expertise and resources beyond those available at the Regional level. This may include on-site assistance from other Branches, such as the Environmental Monitoring and Reporting Branch and the Public Affairs and Communications Branch.

G-1

This level of response is normally limited to prolonged incidents which require specialized monitoring, modelling or analytical capabilities and associated resources, or to serious incidents which attract considerable public concern.

**PROCEDURE G-1-1**  
**(formerly referenced by 13-01)**

**Spill Cleanup Options**

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## I. Introduction

Ministry staff who respond to spills may be required to initiate prompt containment or cleanup measures to minimize the adverse effects of a spill. The primary purpose of this procedure is to outline options available to the Ministry for dealing with urgent spill cleanup requirements, including mechanisms for covering cleanup costs. It also outlines some of the usual ways in which spills are dealt with including cleanups by the discharger, municipalities, the Ministry of Transportation and other agencies. In addition it summarizes waste management requirements for a variety of spill related scenarios.

## II. Discharger's Cleanup Duty

In Ontario the primary responsibility for dealing with spills rests with the discharger. Specifically, Section 93 of the *Environmental Protection Act* (R.S.O. 1990) places an absolute responsibility for cleanup on the **owner and person in control of a pollutant** at the time it is spilled:

- Sect. 93        (1)    The owner of a pollutant and the person having control of a pollutant that is spilled and that causes or is likely to cause adverse effects shall forthwith do everything practicable to prevent, eliminate and ameliorate the adverse effects and to restore the natural environment.
- (2)    The duty imposed by subsection (1) comes into force in respect of each of the owner of the pollutant and the person having control of the pollutant immediately the owner or person, as the case may be, knows or ought to know that the pollutant is spilled and is causing or is likely to cause adverse effects.

Under Section 95 of the *EP Act* the **owner and person in control** is also given the right to enter property and to take the necessary steps for the purpose of carrying out the duty imposed in Section 93 of the *Act*.

Ministry staff who respond to spills need to be aware of these key provisions. They should inform the discharger of their legal duty to clean up and restore the environment in a timely manner. The Ministry's primary role at a spill site is to ensure, whenever possible, that the discharger responds promptly and complies with their legal requirements. Ministry field staff, as well as staff from the Spills Action Centre (SAC), should try and assist the discharger, or others who respond to spills, in determining proper cleanup and disposal procedures.

At times, it may also be necessary to assist the discharger in identifying suitable



cleanup contractors. (Lists of spill cleanup contractors are maintained at SAC). However, **it is essential that Ministry staff avoid making the call to the cleanup contractor on behalf of the discharger as this could result in the Ministry being billed for the cleanup.** Whenever possible, the discharger (i.e. the owner or person in control) must make their own arrangements with cleanup contractors.

In situations where the discharger fails to meet their cleanup responsibilities, requests assistance from Ministry, or where the discharger is unknown, other options may need to be pursued.

### III. Cleanup by Other Agencies

A number of other agencies such as municipalities, the Ministry of Transportation, Ontario Hydro (or local electrical utilities) or the Canadian Coast Guard, can also provide varying degrees of spill containment and cleanup measures.

#### Municipal Response

The municipality may provide some level of spill response particularly if a spill occurs on a municipal road or into a municipal drainage system, including creeks or rivers. Some municipalities have excellent spill response capabilities and are available on a 24 hour-per-day basis while others provide little or no response capability. Ministry district staff, especially Emergency Response Persons (ERPs) are encouraged to familiarize themselves with municipal spill response capabilities in their district so they know what to expect when they are actually on site dealing with a spill. In general, municipalities can provide some containment or cleanup measures for spills involving operating fuels such as oil, gasoline or diesel fuel. Spills of more exotic or hazardous materials or large non-hazardous spills will likely be beyond the capability of the municipality and may require the services of specialized contractors.

Fire Departments are often called to clean up spills, especially minor gasoline and fuel oil spills. They will routinely put absorbent down and scoop the waste into a container or garbage bags. In some areas fire departments may be prepared to do larger cleanups and then recover the costs. In other situations, fire departments may not even clean up minor spills, especially if an emergency exists elsewhere. Once again, staff are encouraged to familiarize themselves with the capabilities of fire departments in their district.

Section 100 of the *Environmental Protection Act* provides municipalities with the right to respond to spills. If they choose to respond they are provided with the right-of-entry under Section 95 and protection from prosecution under Section 98. In addition, Section 100(4) provides them with the right to compensation from the owner or person in control of the pollutant. In some circumstances, they may be able to

recover costs from the Environmental Compensation Corporation or from the Ministry of Environment and Energy.

In spill situations where a municipality's assistance is needed and where they can reasonably be expected to respond (for example, minor fuel or oil spills) Ministry field staff and SAC staff should endeavour to make the municipality aware of their rights under Part X of the *Act*. While the Ministry may encourage a municipality to respond, Ministry staff are not in the position to force a municipality to deal with a spill. The Minister is the only one who has the authority under Part X of the *Act* to order a municipality or others to respond (this option is discussed later).

### **Ministry of Transportation**

The Ministry of Transportation of Ontario (MTO) is responsible for maintaining a network of highways across the Province. MTO road crews are equipped to deal with less serious spills, particularly those involving gasoline or other motor vehicle operating fuels. MTO is permitted to haul wastes from a spill cleanup site to any of their yards for temporary storage without being subjected to all of the waste management rules, such as manifesting and registering ("Field Operations Exemption"). Subsequent movement of residues from temporary storage to final treatment or disposal are subject to the applicable waste management requirements.

### **Ontario Provincial Police**

Spills of materials regulated by the (Federal) Transportation of Dangerous Goods Act, (TDG Act) in any mode of transportation are referred to as "dangerous goods occurrences" under the TDG Act and are subject to the provisions of that Act. Transportation of Dangerous Goods officers of the OPP may coordinate or assume command of the response to serious dangerous goods occurrences. The OPP will rely on best available information from several response agencies including Ministry of Environment and Energy in dealing with such accidents. The TDG Act provides for sweeping power for remedial measures to the Dangerous Goods Officers and provides for the recovery of costs from the carrier.

### **Ontario Hydro**

Ontario Hydro (or any local electrical utility) is responsible for maintaining a network to distribute electricity via power lines, capacitors and transformers. Hydro is responsible for cleaning up spills of insulating oils from capacitors and/or transformers in their network. Similar to MTO, Hydro is also permitted to move cleanup residues, under the "Field Operations Exemption", to temporary storage without being subject to otherwise applicable waste management requirements for transporting and disposing liquid industrial or hazardous wastes.

Heat transfer or insulating oils may contain greater than 50 ppm PCBs. If so, the oil is treated as PCB-contaminated oil and requires an elaborate cleanup procedure including prompt excavation of contaminated topsoil, decontamination of concrete surfaces with an appropriate solvent and disposal of all clothing and tools used during the cleanup. If the oil contains less than 50 ppm PCBs, then the utility need only treat the spill as a regular oil spill. Unless the oil in a capacitor or transformer was pre-tested by Hydro, the PCB concentration can be determined by a Chlor-N-Oil test, which can be performed on site. The test enables cleanup crews to determine whether or not the oil exceeds 50 ppm PCBs.

### **Canadian Coast Guard**

The Canadian Coast Guard is available on a 24-hour basis to respond to marine spill incidents. They maintain emergency equipment for dealing with oil spills or other marine spills. This equipment includes booms, sorbents, skimmers and special boats. Marine incidents can be divided into three categories: spills to the Great Lakes originating from a marine vessel, spills to the Great Lakes originating from shore and spills to inland waters (regardless of whether they are from a marine vessel or from shore). If the Coast Guard needs to respond to a spill in the Great Lakes from a marine vessel, they will do so and seek to recover their costs from the vessel later. If the Coast Guard is asked to respond to a spill to the Great Lakes or any other waterbody, which originates from a shore source, the Coast Guard will ask for assurances that someone will pay a user fee. Under these circumstances every effort should be made to obtain such assurances from the discharger. However, there may be cases where the Ministry has to provide these assurances and should consider the use of a Minister's order or direction.

In general, the Ministry is not the only agency that has an interest in seeing that spills are cleaned up. The agencies identified above, can frequently provide a cleanup response in conjunction with the discharger's efforts or if the discharger fails to do so. Ministry staff responding to spills should be aware of these alternatives and make use of them wherever practicable. If no other agency is willing or able to accept cleanup responsibility, and if the discharger is not fulfilling his/her duty, then the Ministry may need to become more directly involved.

## **IV. Ministry Cleanup Options**

The Ministry's direct involvement in cleaning up spills can proceed by making use of the formal legal "tools" provided in Part X of the *Environmental Protection Act*, depending on the nature of the incident and the time permitted to initiate action. These tools include a Minister's direction under Section 94 or an order under Section 97. Less formal alternatives are also available for incidents where there is insufficient time to arrange contacting the Minister and preparing a direction or order, or where

the spill is not serious enough to warrant this level of involvement. **Staff should be cautioned, however, that if they proceed without a Minister's direction or order they (or their agents) may not have the additional level of legal protection provided in Part X. They may also encounter difficulties in ultimately recovering costs from the discharger.** The pros and cons of each option should be considered before proceeding.

A decision flowchart has been developed to assist staff in selecting appropriate cleanup options. Figure 1 is intended to serve as a quick guide to aid regional staff, especially ERPs, in the decision making process. Details relating to Ministry cleanup options, outlined in figure 1, are contained within the following sections.

#### 1. Minister's Orders/Directions - General

As indicated earlier, the Minister of Environment and Energy (or alternate i.e. the Minister of Northern Development and Mines or the Minister of Agriculture and Food) is the only one who can order dischargers, municipalities or virtually anyone else to respond to spills. Section 97 of the *EP Act* provides the authority which can be exercised when it is in the public's interest to do so. **No one else in the Ministry has the authority to issue an order under Section 97 or a direction under Section 94.**

A Section 94 Minister's direction is viewed as being less confrontational than an order and yet provides the same level of protection and rights to compensation.

Under Section 94, the Minister can direct Ministry staff or their agents, who are usually contractors or municipal employees, to take the action necessary to contain, cleanup and dispose of the spilled material, as well as restore the natural environment. The need for a Minister's order or direction is normally identified by Ministry staff in the field who are experiencing difficulty in getting someone to accept responsibility for the cleanup and where there is urgency to proceed. Ministry staff are advised to make use of the legal tools provided in Part X of the *EP Act* when dealing with serious spills or spills which will likely be costly to clean up. **Anyone who acts under a Minister's order or direction is provided with the right-of-entry and protection from prosecution. They are also given the right to compensation from the owner or person in control or from the Crown for all reasonable cost and expense incurred.**

#### Minister's Directions - (Option 1(a), figure 1)

Ministry field staff who are contemplating the use of a Minister's direction should contact SAC as early in the incident as possible, since the process of contacting the Minister and obtaining concurrence can take some time. SAC is

equipped to initiate contact with the Minister or the Minister's staff and to prepare appropriate wording for a direction, usually with advice from the Legal Services Branch. (See Appendix I for an example of a Minister's Direction).

When contacted, SAC will request specific incident details from field staff including the reason for choosing a Minister's direction, and the name of an agent or contractor who is willing and able to do the work (this may be a municipality or a private contractor). A draft direction will then be prepared at SAC during the off-hours and possibly at the Legal Services Branch or in the Region during regular business hours. Once the wording is agreed upon, the Minister will be contacted. If the Minister is not available in a reasonable time frame, efforts will be made to contact the alternate, the Minister of Agriculture and Food. A Minister's Direction can be issued by the Minister's over SAC's recorded telephone lines.

Ministry supervision/monitoring is essential when a Minister's direction is issued, since public funds are being spent without benefit of tender.

Costs incurred under a Minister's direction are eligible for funding from the Environmental Security Account. Procedures for accessing this account are provided in Appendix II.

#### **Minister's Orders - (Option 1(b), figure 1)**

A Minister's order can be used to order the discharger, a municipality or virtually anyone to respond to a spill. In practice, however, its use should be considered primarily for dealing with a discharger who has the resources to clean up but refuses to do so. Keep in mind that if a discharger refuses to act under an order, the Minister may then have the work done by someone else at the expense of the person who has been ordered.

As with a Minister's direction, staff who are considering the use of a Section 97 order should contact SAC as soon as possible and provide details which can be relayed to the Minister for concurrence. Again Ministry supervision is essential since public funds are spent without the benefit of tender. (Those ordered may respond reluctantly or slowly and may not be the most knowledgeable with respect to cleanup techniques).

Costs incurred in responding to a Minister's order are covered by the Environmental Security Account. (See Appendix II).

A Minister's order must be given in writing. It is acceptable, however, for the Minister to direct a representative of the Ministry, such as an ERP, to give written notice to the person(s) being ordered. Those who are ordered do not

have right of appeal.

## 2. **The Ministry Regional Spill Cleanup Response - General**

In situations where the Ministry is required to facilitate a prompt cleanup response it may not always be practicable to proceed via a Minister's Order or Direction. A number of other alternatives are available to staff for dealing with urgent spill cleanup requirements. These are divided into three categories according to the level of approval or authorization required (i.e., ERP approval, District Officer approval or Regional Director approval).

### **ERP/Environmental Officer Approved Cleanup (Option 2(a) fig 1)**

Environmental officers responding to spills are permitted to authorize spill containment or cleanup measures costing up to \$1,000.00. This option can be exercised when the situation demands an immediate response to limit or control the adverse effects of a spill. In order to make use of this option, some sort of containment or cleanup resources must be readily available either through a municipal works/roads department, Ministry of Transportation, a private contractor or even a nearby farmer. For example, this may involve the use of a bulldozer or a truck full of sand to block off a ditch to prevent the spill entering a creek, river, or other water courses. Another inexpensive yet effective measures may include blocking-off a manhole to prevent the material from entering a sewer system.

Generally speaking, this type of response is viewed as a "stop gap" or temporary measure for dealing with immediate concerns of a spill. The ultimate cleanup may still be handled through a more formal mechanism such as a Minister's order or direction, or by other agencies or even the discharger.

Costs for this level of containment or cleanup action are normally paid out of the regional budget without accessing the Environmental Security Account.

### **District Officer Approved Cleanups - (Option 2(b), figure 1)**

If the estimated cost of a spill containment and cleanup action is between \$1,000 and \$5,000, District Officer approval is required. The scenario here will be one where a more expedient response is required than that which can be provided by a Minister's order or direction. It may also be used in a scenario where there is no foreseeable reason to proceed with a Minister's order or direction; that is, there is no anticipated need to provide things such as right-of-entry or protection from prosecution, and it is unlikely an attempt will be made to recover costs from the discharger. (Remember, our chances of recovering costs from the discharger are better if we use the legal tools



provided in Part X of the *EP Act*).

If the District Officer is unavailable, the Head of the Spills Action Centre or a regional management staff member, such as the abatement manager, can provide this level of approval.

Funding for this level of cleanup may come out of the regional budget or may be eligible from the Environmental Security Account. Cleanup costs slightly over \$1,000 would probably be accommodated out of the regional budget while those that are closer to \$5,000 would probably come from the Environmental Security Account.

### **Regional Director Approved Cleanups - (Option 2(c), figure 1)**

For Ministry initiated spill cleanups in the range of \$5,000 to \$50,000, a Regional Director or his delegate is required to give approval before proceeding. The circumstances should be similar to those outlined in 2(b) where there is no need to use a Minister's order or direction to provide right-of-entry, immunity from prosecution or a legal avenue for recovering costs; or there is simply insufficient time to arrange for an Order or Direction by the Minister.

If we proceed with this option, recovering costs from the discharger may be difficult. On the other hand, it may be prudent to use this option (or 2(a) or 2(b)) as an interim measure for proceeding until an official Minister's Order or Direction can be prepared.

Funding for this level of containment or cleanup action would normally be accommodated by the Environmental Security Account. Once again, consult Appendix II.

**NOTE:** If the cleanup costs are estimated to be greater than \$50,000, option 1(a). or 1(b)., a Minister's direction or order must be used.

### **3. Province of Ontario Contingency Plan for Spills of Oils and Other Hazardous Materials**

A final option available to the Ministry for dealing with spill cleanup is the Province of Ontario Contingency Plan for Spills of Oil and Other Hazardous Materials, or as it is commonly referred to, the "Provincial Spill Plan". This plan was developed pursuant to Order-in-Council 1487/75 which assigns this Ministry as the lead agency for coordinating the resources of the Government of Ontario in spill situations.

Specifically, the plan was established to provide a mechanism for coordinating and utilizing available government resources to deal with containment, cleanup and disposal phases of spills. The Plan defines a major spill as one for which the Plan is needed. It places the Ministry in charge and permits it to draw upon resources of any or all of the following agencies:

- Ministry of Natural Resources (Ontario)
- Ministry of Transportation (Ontario)
- Ministry of Health (Ontario)
- Ministry of the Solicitor General (Ontario)
- Ministry of Labour (Ontario)
- Ministry of Consumer & Commercial Relations (Ontario)
- Department of Transport (Canada)
- Department of the Environment (Canada)

In every day incidents the intent of Order-in-Council 1487/75 is realized when we make use of resources in the "Provincial Spill Plan", i.e., calling upon participating agencies to do things that are within their normal range of activities without actually invoking the Plan.

The spirit of the Order-in-Council (sometimes known as the Lead Ministry Concept) and the "Provincial Spill Plan" is fulfilled if the Ministry of Transportation, for example, supplies sand for a fuel oil spill at our request. However, no formal invocation of the Plan takes place for such minor events. In light of other options currently available to the Ministry for dealing with spill cleanup, the "Provincial Spill Plan" would probably only be invoked formally when dealing with extremely large spills, and where there is sufficient time to coordinate the resources of other agencies.

The Provincial Spill Plan should be considered where the spill cleanup appears to be beyond the response capability of the discharger (if known), or local agencies that may be called upon to assist, and where the cost of using private contractors may be prohibitive. In these situations, it is reasonable to call upon available public resources/equipment to provide some level of response without undue additional costs to the tax payer. For example, the Ministry of Transportation could provide manpower, trucks, sanders or other heavy equipment. The Ministry of Natural Resources could also provide manpower assistance, especially in some remote areas, as well as equipment such as floodlights, surveillance aircraft, hip-waders or chest waders. The Ministry of the Solicitor General could provide provincial police assistance or expertise from the Fire Marshall or Emergency Planning Offices. (For additional details on the responsibilities of participating agencies, see Section 202 of the "Provincial Spill Plan").



The Plan can only be invoked by the Ministry's Regional Director (in the region in which the spill occurred), his designate, or in their absence, the Chairman of response teams established under the Plan. Recommendation for invoking the Plan comes from the Ministry on-scene coordinator, who is normally the District Officer. If the Plan is invoked, SAC and senior Ministry management must be informed and in practice would likely be involved in the decision to invoke the Plan.

When the Plan has been invoked and the resources of the various agencies utilized, Ministry will reimburse participants for costs incurred in carrying out Ministry requested activities, which are in addition to their normal range of activities or operations. Ministry senior management will determine how these costs are reimbursed. The Ministry of Municipal Affairs is charged under Order-in-Council 1770/85 with funding and coordination of extraordinary Provincial expenditures on emergencies and Ministry may be able to recover costs incurred under the Provincial Spill Plan by special submission to Management Board of Cabinet. Every effort will be made to recover costs from the discharger.

## V. Waste Management Considerations

It is important for Ministry staff who respond to spills to ensure that applicable waste management rules are followed regardless of which cleanup option is used. When materials or products are spilled, they normally generate wastes that need to be managed in accordance with the requirements of Part V of the *Environmental Protection Act* and Regulation 347.

If the spill results in the generation of wastes that are either hazardous or liquid industrial wastes that need to be transported and disposed of, then the normal legislative requirements are as follows:

1. The wastes must have a generator registration number in order to facilitate their transportation and disposal. If the owner or person in control does not already have an applicable registration number for the type of wastes generated by the spill, then an emergency generator number will have to be provided by the district in which the spill has occurred, when the waste is scheduled for disposal.
2. The wastes must be transported for disposal by a carrier who has a Ministry Certificate of Approval for the waste classes involved.
3. An Ontario Waste Manifest must be used to track the movement of the waste from the spill site to the treatment or disposal site.

4. The wastes, when scheduled for disposal, must be taken to a waste treatment or disposal site operating under a Ministry Certificate of Approval for the waste classes involved.

These waste management requirements were developed to ensure that wastes are managed properly. *The Act* was not intended to hamper prompt and responsible action which may be required during spills and emergencies. For this reason, the *Act* provides some flexibility for dealing with these situations, especially when it is not possible or practicable to use licensed carriers and receivers.

If a Minister's direction under Section 94 or a Section 97 order is issued, then the above mentioned waste management requirements do not have to be strictly adhered to, provided the wastes are handled in accordance with the direction or order.

Section 96 of the *Act* deals specifically with disposal of spilled pollutants. It prohibits the use or disposal of spilled pollutants except in accordance with:

- normal Part V mechanisms,
- an order or direction by the Minister, or
- a direction or an approval by the director.

Under Section 96(2) a regional director or his designate may approve the transportation and disposal of waste materials from a spill and may do so despite the terms or conditions in a certificate of approval issued under Part V.

A range of spill scenarios and waste management options for dealing with these spills are shown in Appendix III.

APPENDIX I

EXAMPLES:

MINISTER'S DIRECTION (Section 94 - RSO 1990)  
(Section 82 - RSO 1980)

DIRECTORS APPROVALS (Section 96 - RSO 1990)  
(Section 84 - RSO 1980)

## APPENDIX II

### SUMMARY OF PROCEDURES FOR ACCESSING THE ENVIRONMENTAL SECURITY ACCOUNT FOR EMERGENCY SPILL CLEANUPS

#### PROCEDURES FOR ACCESSING THE ENVIRONMENTAL SECURITY ACCOUNT FOR EMERGENCY SPILL CLEANUPS

1. Once the need to access the Environmental Security Account has been identified, regional management (district officer, abatement manager or regional director) should contact the Security Account Office as soon as possible to provide preliminary details of the work to be done (or already done) and any estimates of cleanup costs.
2. The district officer is responsible for ensuring the assembly of all pertinent information such as
  - correspondence between the Ministry and the discharger, contractor, or other agencies involved,
  - Minister's directions or orders,
  - written estimates of cost,
  - occurrence report, and
  - other reports, letters or memos relating to the incident.

The above items should be enclosed with a memo from the Regional Director to the Coordinator, Security Accounts Office, Regional Operations Division, to formally request payment of cleanup costs from the Environmental Security Account.

3. The district officer is responsible for verifying all invoices submitted to the Ministry and then obtaining the appropriate level of signing authority, and attaching the Assistant Deputy Minister's approval for funding, prior to sending them to the Financial Services and Capital Management Branch (Accounts Payable) for processing and payment.

**Notes:**

- (i) If an extended long term project is needed to the cleanup and restoration, following initial containment and cleanup, a separate submission should be made to the Security Account Office, following normal Security Account procedures. (Please refer to the Environmental Security Account Policy and the Security Account User Guide).
- (ii) Maintain records of all invoices in district/regional office for subsequent audit or use during subsequent litigation.
- (iii) If the Ministry is paying for the cleanup without benefit of tender, personnel should obtain the appropriate Ministry approval on single sourcing based on the estimated cost and oversee all the cleanup activities to ensure costs are reasonable.

### APPENDIX III

## WASTE MANAGEMENT CONSIDERATIONS

### FOR VARIOUS SPILL SCENARIOS

#### WASTE MANAGEMENT CONSIDERATIONS FOR SPILLED MATERIALS

"Subject wastes" are defined in Sect.1, ss.57-Reg.347, Pt.V, *EP Act*, as liquid industrial waste and hazardous waste (see specific definitions). For hazardous waste and liquid industrial waste exclusions, see Sec.1, ss. 27 & 38, respectively, Reg. 347.

#### ON-SITE SPILLS

1. The spill occurs at the controllers/owner's primary place of business, and the material is defined as:

- a) a subject-waste under Reg. 347, Pt.V, *EP Act* and is registered;

then, can be transported for disposal using a waste manifest indicating the existing site waste generator registration (WGR) number and waste class, the licensed waste carrier and the licensed waster receiver,

or, can be stored on site until transport for waste disposal can be arranged (such storage must be reported to the Regional Director if to continue for more than three months (Reg. 347)),

or, if the situation warrants prompt action to alleviate a situation, the authority

given under the *EP Act*, Sec. 94, 96 or 97 may be used without adhering to either of the previous two options

**b) a subject-waste under Reg. 347, Pt.V, *EP Act* and is not registered;**

then, can use an emergency waste generator number and an appropriate waste class to allow waste manifesting, for disposal, by a licensed carrier to a licensed receiver,

or, store on site until transport for waste disposal can be arranged or until the waste material can be suitably classified (such storage must be reported to the Regional Director if to continue for more than three months (Reg. 347)),

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96 or 97 may be used without adhering to either of the previous two options

**c) a recyclable material (the spilled product may now be contaminated but usable (Sect.51 - Reg.347));**

then, if the material is hazardous or liquid industrial, can be transported (must be direct) without manifesting to the site where it will be used (owner will have to consider TDG-Act requirements (placarding) if the material is a regulated dangerous good),

or, can be stored on site until arrangements for transporting can be made,

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96 or 97 may be used without adhering to either of the previous two options.

- d) **not a subject waste (solid non-hazardous, or a liquid waste excluded as per Sec.1, ss.27 or 38, Reg.347);**

then, can be transported directly to an approved disposal site by a licensed Carrier,

or, can be stored on site until other arrangements can be made for disposal,

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96 or 97 may be used.

### OFF-SITE SPILLS

- 2. **The spill occurs at other than the controller/owner's place of business, and the material is:**

- a. **a subject waste under Reg.347, Pt.V, *EP Act*;**

then, can use an emergency waste generator number and appropriate waste class to allow waste manifesting, for disposal, by a licensed carrier to a licensed receiver,

or, utilize the "Field Operations Exemption" as it applies to spill clean-up activities, which allows for the temporary storage of wastes at a local waste transfer facility(\*) - examples of when it might be used are:

- i) - waste class cannot be readily determined
- ii) - licensed carriers and receivers are not readily available for waste manifesting



- iii) - a municipality, road authority, police, fire dept., or Ministry takes control of the waste clean-up

\*The waste material can be taken to a local waste transfer facility which is not part of a waste management system, but meets certain site requirements with respect to containment, fire safety, etc. (See Field Operations Exemption for a definition of a "local waste transfer facility").

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96, or 97 may be used without adhering to either of the previous two options

- b) **not a subject waste (solid non-hazardous, or a liquid waste excluded from Sec. 1, ss. 27 & 38, Reg. 347);**

then, can be transported directly to an approved disposal site, or local waste transfer facility (described in the Field Operations Exemption), by the controller/owner, municipality, road authority, police, fire dept. Ministry or another designated contractor,

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96, or 97 may be used without adhering to the previous option

- c) **a recyclable material (the spilled product may now be contaminated but usable (Sec. 51 - Reg. 347));**

then, if the material is hazardous or liquid industrial it can be transported (must be direct) without manifesting to the site where it will be used (owner will have to consider TDG-Act requirements (placarding) if the material is a regulated

dangerous good),

or, can be transported to a local waste transfer facility (as per the Field Operations Exemption) by the controller/owner, municipality, road authority, police, fire dept., Ministry or another designated contractor, until further arrangements can be made,

or, if the situation warrants prompt action to alleviate a situation, the authority given under the *EP Act*, Sec. 94, 96, or 97 may be used without adhering to either of the previous two options.

**GUIDELINE G-2**  
**(formerly 13-02)**

**Spills Action Centre Operations**

**Legislative Authority:**

*Environmental Protection Act, RSO 1990, Part X*  
*Ontario Water Resources Act, RSO 1990*  
*Pesticides Act, RSO 1990*

**Responsible Director:**

Assistant Deputy Minister, Regional Operations Division

**Last Revision Date:**

April, 1994

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- 1.0 SPILLS ACTION CENTRE FUNCTIONS
- 2.0 APPROPRIATE RESPONSE ACTION
- 3.0 OPERATING PROCEDURES UPDATING
- 4.0 SPILL RECORDS
- 5.0 CONTINGENCY PLANNING

## SYNOPSIS

The primary purpose of this guideline is to outline and describe the operations of the Ministry's Spills Action Centre (SAC). The Spills Action Centre commenced operations on November 29, 1985, the same day Part X of the *Environmental Protection Act* came into force.

### 1.0 Spills Action Centre Functions

The Ministry's Spills Action Centre (SAC) was established to:

- (a) maintain a province-wide, toll-free service for receiving, evaluating and initiating responses to notifications of spills and other urgent environmental matters on a 24-hour basis;
- (b) serve as a provincial focal point for activities dealing with spills and related emergencies;
- (c) liaise with other agencies on spills and related emergencies;
- (d) maintain a provincial spill database for the Ministry; and,
- (e) provide contingency planning functions and related spill response training.

### 2.0 Appropriate Response Action

SAC staff are required to evaluate all occurrences reported to them and to decide on the appropriate action to be taken, with the assistance of SAC Operating Procedure Cards (see Section 3.0).

Such actions typically include the following:

- (a) contacting the owner of a suspected pollution source in an attempt to verify and resolve the problem;
- (b) initiating Ministry field response by contacting Environmental/Emergency Response Staff if required;
- (c) contacting other agencies as required (e.g., police, fire department, ambulance, Coast Guard, Canutec, municipalities, U. S. authorities);
- (d) notifying senior management of serious incidents and co-ordinating information flow with the Public Affairs and Communications Branch;
- (e) establishing contact with the Minister regarding major spills and preparing direction and orders for the Minister's consideration, and conveying directions or orders from

the Minister as necessary;

- (f) ensuring that potentially affected parties are notified/warned;
- (g) liaising with, and providing support for, agencies in charge when a spill involves an emergency situation;
- (h) providing information on chemicals and clean-up techniques to Ministry staff and others; and,
- (i) recording details of complaints and/or incidents and forwarding them to relevant District Offices or other agencies for response during normal business hours.

Regardless of what action is initiated, all occurrences reported to SAC are documented and tracked on the Ministry's Occurrence Reporting Information System (ORIS).

### **3.0 Operating Procedures Updating**

SAC Operating Procedure Cards, which are routinely updated, contain decision process guidelines for co-ordinating responses and for notifying other agencies, as required.

### **4.0 Spill Records**

SAC is responsible for maintaining spill records for the Ministry. It is the responsibility of all Ministry staff who may receive a report of a spill from a discharger, municipal authorities or others to advise SAC as quickly as possible of the event. SAC Environmental Officers enter all spill occurrences on ORIS. SAC prepares annual spill summaries and other summaries as required.

### **5.0 Contingency Planning**

SAC spill contingency planning activities include:

- (a) interagency spill response co-ordination;
- (b) municipal and industrial spill contingency planning advisory services;
- (c) spill response advisory services; and,
- (d) staff training and participation in spill training courses and exercises.

**GUIDELINE G-3**

**ENVIRONMENTAL SECURITY ACCOUNT**

**Legislative Authority:**

*Environmental Protection Act*, Sections 94, 146, 147

*Environmental Assessment Act*, Section 29

*Ontario Water Resources Act*, Sections 80, 81

**Responsible Director:**

Assistant Deputy Minister, Operations Division

**Last Revision Date:**

October, 1994

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**SYNOPSIS**

This guideline and procedure outline the Ministry's administration of the Environmental Security Account (ESA). Specifically it describes the role and responsibility of Ministry staff in the use of funds from the ESA.

The ESA is established to allow the Ministry to act quickly to resolve serious or urgent environmental contingencies. Funding is provided only if a responsible party cannot be identified or located or refuses or is unable to take the necessary remedial action.

The Regional Director determines the need for Security Account funding and makes a funding request to the Coordinator, Security Account Office (SAO). The SAO determines the eligibility of the request and makes recommendations to the Assistant Deputy Minister, Operations Division, through the Director, Approvals Branch. Projects utilizing approved ESA funding are to follow applicable Government administration guidelines and policies.

**1.0 Introduction**

The Ministry of the Environment and Energy has jurisdiction over the investigation, clean-up and restoration of the natural environment. Actions necessary to resolve environmental problems or provide interim solutions can be undertaken by the polluter, the Municipality, the Ministry, or others.

The Ministry has established within its budget an Environmental Security Account. The Environmental Security Account is not intended to replace other programs. Emergency response, initial investigation and field monitoring may have taken place prior to the Regional Director requesting access to Environmental Security Account funding.

On December 1, 1987, Management Board of Cabinet approved the Ministry's eligibility requirements and the "Guidelines and Procedures for Environmental Security Account Projects." This guideline is an update of the original document, reflecting the organizational changes within the Ministry that has taken place since.

**2.0 Statement of Principles**

The objective of the Environmental Security Account is to fund projects directed to the resolution of serious or urgent environmental problems.

Every possible effort shall be made to recover monies disbursed from the account from those responsible.

Funds will be directed mainly to projects that involve the implementation of remedial measures

to protect against environmental damage and ameliorate risks where public health or safety is or appears to be in jeopardy.

The Environmental Security Account may be used in emergency situations and in cases of unresolved environmental problems to fund projects that clean-up or restore the natural environment, protect human health and safety and provide alternative water supplies where an existing supply is at risk from contamination.

Except where immediate Ministry action is necessary to protect the natural environment or public health and safety, funds from the Environmental Security Account shall only be made available if a responsible party cannot be identified, or where other measures such as Control Orders, Director's Orders or Minister's Orders have not met with the necessary response.

## **2.1 Eligibility Requirements**

Projects must meet one or more of the following requirements to be eligible:

- provision of alternative water supplies where existing supplies are affected or threatened by a source of contamination;
- clean-up of areas where environmental damage or health risks are identified;
- hydrogeological studies of areas where serious contamination is known or expected;
- actions to remove or reduce potential long term environmental hazards.

## **3.0 Definitions**

### **Project Coordinator**

An appointed member of Ministry staff accountable for overall project control and monitoring.

### **Project Manager**

Where a need is identified, the Project Coordinator may appoint or hire an individual who, under the direction of the Project Coordinator, will be accountable for control of clearly defined works involving extensive protracted work or engineering action.

### **Project Liaison Committee**

A committee which may be established by the region/branch to review and advise all aspects of the project management. The committee shall be chaired by the Project Coordinator and may be comprised of internal and external parties.

### **End of Project Report**

A report, submitted at the completion of the project, detailing remedial measures implemented, results achieved and any future action required, including any cost sharing arrangements or cost recovery efforts.

### **Project Closure Certificate**

A certificate, signed by the Project Coordinator, indicating that all expenditure payments for the project has been completed, detailing the final cost, and summarizing the efforts made towards the recovery of funds.

### **Request for Emergency Spill Clean-up Funding**

A standard form to simplify the funding request for spill containment and clean-up. This form is to be completed by the Region that is involved in an emergency situation where the owner of the spilled materials could not be identified or would not take the necessary action.

## **4.0 Guideline Requirements**

### **4.1 Project Controls**

Administration and expenditure control responsibilities of the Environmental Security Account shall be exercised by the Coordinator, Security Account Office. Overall budgetary control and approval for funding of all individual projects shall be the responsibility of the Assistant Deputy Minister, Operations Division.

#### **4.1.1 Control Procedures**

Project control procedures shall ensure:

- . all pertinent legislative requirements and administrative policies, directives and guidelines are followed;
- . adequate project monitoring;
- . evaluation of results expected and achieved;

- appropriate disbursements of funds.

#### **4.1.2 Records**

Records suitable for audit and cost recovery purposes shall be maintained for each project by the Project Coordinator or designate.

#### **4.1.3 Recoveries**

Every possible effort shall be made to recover monies disbursed from the Environmental Security Account from those responsible.

### **4.2 Responsibilities**

#### **4.2.1 Assistant Deputy Minister, Operations Division**

The Assistant Deputy Minister, Operations Division shall:

- oversee the use of the Environmental Security Account;
- approve the undertaking of Environmental Security Account projects based on the established eligibility requirements;
- ensure sufficient funding is available in the Environmental Security Account.

#### **4.2.2 Region/Branch**

The region/branch in whose jurisdiction the approved project is located shall either by utilization of existing resources or through the use of contracted external services:

- carry out emergency response and all abatement activities including the initial monitoring to define the nature and magnitude of the contamination problem;
- identify and direct responsible part(ies) to undertake remedial efforts;
- prepare request to access the Environmental Security Account, detailing the nature of the contamination and associated health and/or environmental risk or damage, proposed actions and estimated costs;
- appoint a Project Coordinator to oversee the undertaking of the project;
- provide general technical support to the Project Coordinator;

- . provide for site management;
- . be responsible for all public relations work with any liaison committee or the public;
- . be responsible for controlling and managing the resources employed in completing the project.
- . assist the Project Coordinator in undertaking all post clean-up monitoring and preparing a report on results achieved for the purpose of central recording and for the information of Senior Management;
- . initiate efforts to recover costs from the responsible party(ies) whenever possible.

#### 4.2.3 Security Account Office

The Security Account Office shall:

- . assess all requests for approval of projects under the Environmental Security Account;
- . determine compliance with established eligibility requirements and if eligible, recommend approval through the Director, Approvals Branch, to the Assistant Deputy Minister, Operations Division
- . provide advice or assistance to region/branch staff on request;
- . maintain records of all projects including requesting/ authorizing memoranda, project progress reports, Project Coordinator's End of Project Report, Project Closure Certificate and any other documentation necessary for control purposes;
- . co-ordinate with Regional Project Coordinators to ensure every possible effort is made to recover project expenditures from those responsible for the contamination;
- . maintain records of all projects (new and old) for which efforts are being or will be made for the recovery of expended funds from those responsible; such records are to be maintained until funds are recovered or until all necessary investigations or proceedings are completed;
- . ensure that total budgets and annual budgets are identified for each project;
- . track expenditures and projected cash flow on a fiscal year basis and liaise with

Project Coordinators to obtain information necessary for accurate and complete records;

- . receive and review the monthly financial reports for purposes of forecasting;
- . reconcile the budget in conjunction with Project Coordinators;
- . assess the status of the Environmental Security Account and make recommendations for successive years funding;
- . periodically brief the Assistant Deputy Minister, Operations Division and the Director, Approvals Branch, on the status of the Account and the progress of specific projects;
- . confirm annual progress reports and expenditures for all active projects;

#### **4.2.4 Finance & Administration Branch**

The Finance & Administration Branch shall:

- . set up project account, organization code and inform the Project Coordinator and the Security Account Office;
- . process payment of approved invoices;
- . process authorized changes to established budgets;
- . disseminate financial reports, including budgeted expenditures and forecasted expenditures, for overall Environmental Security Account and individual projects;
- . upon notification of potential revenue source(s), issue required invoices and follow-up the collection of account(s);
- . assist in the development and administration of any cost sharing agreements;
- . inactivate project account on receipt of Project Closure Certificate.

#### **4.2.5 Project Coordinator**

The Project Coordinator shall:

- . be responsible and accountable for all activities pertaining to the approved project;
- . initiate investigation(s) to identify sources of contamination and consider options

for the recovery of disbursed funds from the responsible parties;

- . notify the Security Account Office, Legal Services Branch and the Finance & Administration Branch of the need to recover funds and assist in the coordination of efforts for recovery;
- . document the effort made towards the recovery of funds;
- . recommend the requisition of goods and services in accordance with work schedules/phased programs;
- . be cognizant of, and comply with, the requirements of all existing policies, directives and guidelines affecting the acquisition of external services, supplies and equipments;
- . develop the terms of reference under which a consultant is hired. The terms of reference shall define the consultant's objectives and duties;
- . verify and code all invoices detailing expenditures chargeable to the established project account;
- . ensure that each invoice, when verified, is approved by a staff member having appropriate signing authority and forwarded to Finance & Administration Branch for processing;
- . review project budget and expenditure reports, develop current and future cash flow forecasts and provide to the Security Account Office;
- . submit in writing, through the Regional Director, all requests for exceedance of the approved project budget to the Security Account Office;
- . for multi-year projects, prepare annual project progress report and submit the report to the Security Account Office;
- . accommodate requests to prepare and submit other reports (e.g. briefing notes);
- . secure all necessary approvals and satisfy requirements of pertinent legislation, e.g. *Environmental Assessment Act*, *Environmental Protection Act*;
- . prepare or oversee the preparation of an "End of Project" report when remedial efforts have been completed and submit the report to the Security Account Office;
- . prepare and submit a Project Closure Certificate to the Security Account Office

when all invoices for the project have been paid.

#### **4.2.6 Project Manager**

The Project Manager shall:

- . assist the Project Coordinator in the management of specific works;
- . develop and provide agreements for professional services and/or financial control;
- . be responsible for the tendering process for any contracted work in accordance with current standards, policies and directives;
- . develop all property agreements involving Working Rights Agreements, easements or purchase of parcels of lands or structures with the assistance of the Management Board Secretariat, and/or MOEE, Legal Services Branch.

### **5.0 Procedure for Project Application**

#### **5.1 Director of Region/Branch**

Prepare a written request to initiate an Environmental Security Account project outlining:

- . description of the problem and the nature of the contamination, health risks or environmental damage;
- . statement relating the problem to the eligibility requirements;
- . background information;
- . specific details of the proposed action;
- . total estimated cost;
- . estimated annual costs on a fiscal year basis for the length of the Project;
- . anticipated schedule/phasing;
- . name of Project Coordinator.

Forward request to the Coordinator, Security Account Office.



## **5.2 Coordinator, Security Account Office**

Assess all requests in order to:

- . determine compliance with eligibility requirements with assistance from the Science and Technology Branch;
- . determine the financial capability of the account to cover estimated project costs;
- . seek concurrence of the eligibility ruling on the project request from the Director, Approvals Branch;
- . recommend approval or denial to Assistant Deputy Minister, Operations Division.

## **5.3 Assistant Deputy Minister, Operations**

On the advice of the Coordinator, Security Account Office and the Director, Approvals Branch as outlined above, approve or deny the request and return the eligibility ruling to the Coordinator, Security Account Office.

## **5.4 Coordinator, Security Account Office**

Retain one copy of authorized eligibility ruling for recording purposes and forward one copy to the originator and notify the Finance & Administration Branch.

## **5.5 Finance & Administration Branch**

Set up a project account, organization code and inform the Project Coordinator and the Security Account Office.

## **6.0 Emergency Spill Clean-up Funding Request/Reimbursement**

### **6.1 Region**

Undertake emergency response as per Ministry policy 13-01-01. Determine the need for the Ministry to be directly involved in the clean-up in accordance with the Ministry's Guideline on Spill Clean-up Options.

If necessary, secure the service of a contractor to clean-up or contain the spill while following the Government's purchasing directives and guidelines where possible.

Contact the Security Account Office to provide preliminary details of the work completed/ to be done and cost estimates.

Complete the form "Request for Emergency Spill Clean-up Funding" and forward the request along with the associated documentations to the Security Account Office.

## **6.2 Security Account Office**

Assess the request to determine compliance with eligibility requirements.

Submit recommendations to the Assistant Deputy Minister, Regional Division.

## **6.3 Assistant Deputy Minister, Operations Division**

Approve or deny the request and return the ruling to the Security Account Office.

## **6.4 Security Account Office**

Notify the requesting Region and forward a copy of the approved request to the Finance & Administration Branch.

## **6.5 Finance & Administration Branch**

Ensure documentation is complete and process for payment or initiate cost transfer where appropriate.

**MANUAL OF GUIDELINES AND  
PROCEDURES**

**PART H - MISCELLANEOUS**

**December 31, 1994**

## PART H - MISCELLANEOUS

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- H-2 Public Access to Ministry of Environment and Energy  
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- H-3 Guideline on Public Access to Reports from External  
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  - H-5-1 Public Consultation Guide (**available Public  
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- H-6 Financial Assistance for Municipal Water and Sewage  
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revision**)
- H-8 Emergency Takeover of Facilities (**under revision**)

**GUIDELINE H-1**  
**(formerly 16-01)**

**Release of**  
**Scientific Data and Reports**

**Legislative Authority:**

*Environment Protection Act, RSO 1990, Sections 4(f) and 168*

*Ontario Water Resources Act, Section 10*

*Pesticides Act, Sections 2(e) and 19*

*Environmental Assessment Act, Sections 27 and 31(e)*

*Freedom of Information and Protection of Privacy Act, Sections 10 to 22*

**Responsible Director:**

Director, Environmental Monitoring and Reporting Branch

**Last Revision Date:**

April, 1994

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**SYNOPSIS**

Ministry staff responsible for the release of scientific data or reports shall ensure that, where appropriate, there is an adequate accompanying interpretation of the findings in terms of data reliability, environmental significance, and public health implications. Scientific and technical data and reports shall be made accessible to the public in an expeditious manner.

**1.0 Administrative Requirements**

Prior to the release of scientific data and reports. The following administrative approval requirements shall be followed.

**2.0 Application**

This guideline applies to all scientific or technical data and reports, including papers being presented by individual staff members at conferences or for publication, and abstracts for proposals to submit papers at conferences.

Under the *Freedom of Information and Protection of Privacy Act*, Sections 10 and 11, every person has the right of access to a record in the custody or under the control of the Ministry unless the record or part of the record falls within one of the exemptions under Sections 12 to 22.

This guideline does not apply to administrative reports, or to scientific or technical data or reports containing information which is of a proprietary or personal nature, or is subject to the confidentiality requirements of the *Environmental Protection Act (EP Act)*, the *Pesticides Act*, the *Environmental Assessment Act, (EA Act)*, or the *Freedom of Information and Protection of Privacy Act*.

**3.0 Authorization****3.1 Routine Data and Reports**

The release of routine scientific data and reports, whether of a continuing or a special subject nature, shall require the approval of the District Manager or the Regional Director.

**3.2 Reports and Data of Major Interest**

Scientific reports and data of major interest require the Division Head's approval for release, and shall be accompanied by an explanation of data reliability, environmental significance, and public health implications.

### **3.3 Jointly Prepared Reports**

Those portions of scientific reports prepared jointly with or for external groups, including other government agencies, require the approval of the Division Head prior to release.

### **4.0 Ministry of Environment and Energy Staff Responsibility**

Ministry staff responsible for the release of scientific data or reports shall ensure that, where appropriate, there is an adequate accompanying interpretation of the findings, in terms of data reliability, environmental significance, and public health implications.

### **5.0 External Consultation and Notification**

#### **5.1 Ministries of Labour and Health**

##### **5.1.1 General**

When scientific data or reports contain findings with public and or occupational health implications, medical advisors at the Ministries of Health and Labour shall be consulted prior to the release of the findings.

##### **5.1.2 Exceptions**

When scientific data or reports contain findings with public and/or occupational health implications for which standardized interpretations previously have been provided, as per Section 5.1(a) above, then the medical advisors at the Ministries of Health and Labour shall be advised prior to the release of the findings.

#### **5.2 Medical Officer of Health**

The Medical Officer of Health shall be advised and may be consulted on scientific findings with public health implications, prior to the release of the findings.

#### **5.3 Other Agencies**

When various levels of government have a shared interest or responsibility in the scientific findings, advance notice of the findings shall be communicated.

### **6.0 Notification of Communications Branch**

Prior to the printing and release of all Ministry scientific reports, or the release of scientific data of major interest, the Communications Branch shall be notified in order that appropriate communications may be planned.



## **7.0 Publication of Reports**

### **7.1 Authors Identified**

The authors of scientific or technical reports may be identified.

### **7.2 Report Covers**

#### **7.2.1 Routine**

Routine scientific reports on special subjects that are approved for external distribution shall have a green cover with Ministry and Branch identification and the name of the Branch Director.

#### **7.2.2 Major Interest**

Scientific reports of major interest that are approved for external distribution shall have a green cover with the Ministry logo and the names of the Minister and Deputy Minister.

### **7.3 Copyright**

All reports intended for external distribution shall contain the following in a prominent location:

"19xx (year of first publication) Her Majesty the Queen in Right of Ontario";

and shall indicate whom to contact for permission to republish, or state the conditions under which the report or parts of it may be republished.

## **8.0 Guidelines for Data and Reports Release**

Detailed information on the preparation, interpretation and release of scientific data and reports is provided in the "Ministry of the Environment Guidelines on Preparation For Release of Scientific Data and Reports, May 1983."

**GUIDELINE H-2**  
**(formerly 16-06)**

**Public Access to**  
**Ministry of Environment and Energy Invited Submissions**

**Legislative Authority:**

*Environment Protection Act, RSO 1990, Sections 4(f) and 168*  
*Ontario Water Resources Act, Section 10(d)*  
*Pesticides Act, Sections 2(e) and 19*  
*Environmental Assessment Act, Sections 27 and 31(e)*

**Responsible Director:**

Director, Communications Branch

**Last Revision Date:**

April, 1994

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**3.0 ROLE OF COMMUNICATIONS BRANCH**

**SYNOPSIS**

The primary purpose of this guideline is to provide for public access to the submissions invited and received respecting comments on Ministry proposals or mandated issues. All submissions received by the Ministry in response to an invitation for comment shall be available to the public as submitted.

**1.0 Application**

This guideline applies to all invited submissions the Ministry receives, from the public, industry, government agencies, interest groups and others, that provide comment on proposals by the Ministry. Such proposals may include policy issues (in the form of documents such as Green Papers or White Papers), environmental objectives, source emission standards and guidelines. Public access is based mainly, in accordance with the *Freedom of Information and Protection of Privacy Act* requirements, but sometimes outside of the *Freedom of Information and Protection of Privacy Act* process.

This guideline does not apply to invited submissions containing information which is deemed to be of a proprietary or personal nature, or is subject to the confidentiality requirements of the *Environmental Protection Act*, the *Pesticides Act*, or the *Environmental Assessment Act*.

**2.0 Administrative Responsibilities****2.1 Public Notification**

There shall be a public announcement of the Ministry's policy of providing public access to all submissions at the time the Ministry invites submissions on policy issues, environmental objectives, source emission standards or guidelines.

**2.2 Submission Availability**

Invited submissions shall be made available at Ministry Corporate and Regional Offices, and at Ministry District Offices, where appropriate.

**2.3 Availability of Submission Summaries**

Where summaries of invited submissions have been prepared, these shall be made available in accordance with Section 2.2 above, and also may be distributed, where appropriate, to public libraries, other government agencies, and upon request, to parties with an interest in the issues under consideration.

### **3.0 Role of Communications Branch**

In conjunction with other appropriate Branches, the Communications Branch shall plan and implement appropriate communications, in accordance with Section 2.0 above. Detailed procedures are provided in "Communications Procedures for Invited Submissions" (October, 1983).

**GUIDELINE H-3**  
(formerly 16-07)

**Guideline on Public Access to  
Reports from External Parties**

**Legislative Authority:**

*Environmental Protection Act*  
*Ontario Water Resources Act*  
*Environmental Assessment Act*  
*Pesticides Act*

**Responsible Director:**

Director, Communications Branch

**Last Revision Date:**

April, 1994

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- 4.1 Routine Reports
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**SYNOPSIS**

The primary purpose of this guideline is to provide for public access to reports that the Ministry receives pursuant to its environmental legislation and mandate. The intent of the guideline is to ensure access to externally-provided reports, in accordance with the requirements of the *Freedom of Information and Protection of Privacy Act*, while at the same time respecting the public access, confidentiality and privacy requirements of other Ministry legislation.

**1.0 Definitions****External Parties:**

Any organizations, companies, agencies or individuals submitting reports pursuant to the Ministry's role in the management of emissions, depositions and discharges to the natural environment

**Reports:**

Any document submitted directly to the Ministry by an external party which quantifies any contaminant or material emitted, deposited or discharged, or proposed to be emitted, deposited or discharged, to the natural environment, or which describes measures to contain or control such contaminant or material

**Major Interest Reports:**

Reports which detail significant public health or environmental issues

**2.0 External Report Preparations**

External reports, other than prescribed forms, shall be prepared to facilitate public access and the protection of confidentiality and personal privacy as follows.

**2.1 Report Format**

Ministry staff shall request external parties submitting reports to prepare them in such a format that any information for which they may make a claim of confidentiality or privacy not be included in the body of the report, but be provided as a separate appendix.



## 2.2 Certification of Confidentiality Claim

Parties making confidentiality or privacy claims shall be expected to specify, in writing, as part of the document:

- (a) what information is to be kept confidential or private;
- (b) the rationale for the claim;
- (c) what legislation authorizes the claim; and,
- (d) what consequences would likely follow from access to the information.

## 3.0 Examination of Confidentiality Claims

- (a) The Director, in receipt of an external report including a confidentiality or privacy claim, shall consult with the Director of the Legal Services Branch where the factors relating to the claim are complex or unclear. The Director is encouraged to consult with the Director of the Legal Services Branch where, at his/her discretion, such consultation would be beneficial.
- (b) If the claim is accepted, either initially by the Director in receipt of the report or after the consultation referred to in (a), then no further action regarding the claim is necessary.
- (c) If the claim is rejected, then the Director in receipt of the report is authorized to:
  - (i) provide for public access to the portion of the report not in dispute; and
  - (ii) advise the external party of the Director's intention to provide public access to any portion of the appendix in accordance with the *Freedom of Information and Protection of Privacy Act* requirements for which a privilege claim has been denied, unless within 30 days, further valid argument can be made in support of the privilege claim.
- (d) If there is a difference of opinion between the Director in receipt of the report and the Director of Legal Services, then the Division Head shall to be apprised of the issue to be resolved.

## 4.0 Ensuring of Public Access

### 4.1 Routine Reports

The Director shall ensure public access to all routine reports, except to those portions of which the external party makes a valid claim pursuant to Section 3.0 above.

The document, or copies of same, should be available for public inspection at the relevant District, Regional or Branch Office, as necessary.

#### **4.2 Major Interest Reports**

The Director shall determine whether a report is of major interest.

Where a report is considered by the Director to be of major interest, a Ministry notification shall be prepared by the Communications Branch, including:

- (a) an announcement that the report has been received by the Ministry;
- (b) an announcement describing where and when the report can be examined by the public; and,
- (c) future Ministry action regarding the report, where appropriate.

The Communications Branch shall plan appropriate communication activities and be responsible for the release of the Ministry notification regarding external reports of major interest.

**GUIDELINE H-4**  
**(formerly 16-08)**

**Research Management**

**Legislative Authority:**

*Environmental Protection Act*

**Responsible Director:**

Director, Fiscal Planning and Information Management Branch

**Last Revision Date:**

April, 1994

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**SYNOPSIS**

The primary purpose of this guideline is to summarize the methods used by the Ministry to select, approve, and administer projects supported by the Research Advisory Committee. The Committee facilitates, through well-defined research projects, the solution of significant or urgent problems related to the protection of the environment and of human health.

**1.0 Definition****Research:**

An investigative study undertaken on a systematic basis to increase the available store of scientific and technical knowledge, and the use of this knowledge in new applications and problem-solving (routine monitoring programs, technical surveys and the implementation of abatement measures are, by definition, excluded from the research category.)

**2.0 Major Steps in the Ministry's Research Management Process**

There are three significant steps in the annual research management cycle:

- (a) identification of research requirements and development of research priorities;
- (b) evaluation of proposed research and allocation of resources; and
- (c) technology transfer.

Details on the organization of information flows, time frame for activities under each step, membership and Terms of Reference for the Research Advisory Committee and support network are provided in Procedure H-4-1: "Research Process".

**3.0 Kinds of Projects Supported**

Financial support shall be directed primarily towards investigating problems associated with the natural environment and human health protection.

Other practical and cost-effective projects may be considered. These include projects which:

- (a) provide a mechanism to reduce an environmental risk factor, where public health is potentially in peril;
- (b) contribute to the development of environmental standards or criteria; and
- (c) demonstrate new and innovative techniques that can lead to the solution of environmental or health protection problems.

#### **4.0 Selection Rrequirements**

##### **4.1 Authorized Criteria for Approval**

Projects/programs must meet the following criteria to be approved:

- (a) specifically defined in terms of objectives;
- (b) set for a fixed term (normally, a maximum of three years); and
- (c) of a high technical quality with good likelihood of success.

##### **4.2 Eligibility and Internal Criteria for Selection and Management**

- (a) Public and professional communities, and firms shall have equal and sufficient opportunity for application.
- (b) Project review procedures shall ensure consistent evaluation criteria are applied to all proposals.
- (c) Adequate project management procedures shall ensure: project monitoring processes; and results evaluation and reporting;

##### **4.3 Management Board Criteria for Approval**

The planning, acquisition and management of research and development services shall conform to the requirements of the current directive on Research and Development Services in the "Management Board of Cabinet Directives and Guidelines" (2-4).

##### **4.4 Projects to be Performed Externally**

Projects shall be carried out by organizations external to the Ministry unless a clearly defined benefit can be demonstrated for in-house work, and approval by Management Board is secured. A project may also be carried out internally under a post-doctoral fellowship.

##### **4.5 MOEE Priorities**

The Ministry will identify research needs and areas of interest, and shall set priorities. It may call for proposals related to these priorities but may also accept some unsolicited proposals.

#### **4.6 Liaison with Agencies**

The Ministry shall maintain contact with other ministries and Federal departments to exchange information, develop joint projects, and avoid duplication.

#### **5.0 Administration and Approvals**

Responsibility for administration and recommendation for approval belongs to the Research Advisory Committee (RAC) and will be exercised through the Research and Technology Section of the Fiscal Planning and Information Management Branch. Final approval of RAC-recommended proposals shall be the responsibility of the Assistant Deputy Minister, Corporate Resources Division.

##### **5.1 RAC Objectives**

RAC is responsible for providing advice to the Minister, Division Heads, and the Research and Technology Section regarding:

- (a) development of partnerships with other research institutions;
- (b) a longer-term research strategy;
- (c) annual research priorities;
- (d) guidelines on eligibility, funding levels, evaluation criteria and time-frames;
- (e) individual projects to be supported; and
- (f) assessment of benefits from completed projects.

##### **5.2 RAC Membership**

Members of the RAC shall include:

- (a) the Director, Fiscal Planning and Information Management Branch (FPIMB), who will act as the Chair of RAC;
- (b) the Manager, Research and Technology Section, FPIMB;
- (c) the Coordinator, Environmental Research Program, Research and Technology Section, FPIMB;

- (d) a selection of other members from Ministry Directors (membership to be reviewed annually by RAC);
- (e) the Chair, Ontario Pesticides Advisory Committee;
- (f) Ex officio member(s) from other agencies involved in the support of environmental and health protection research, as recommended by RAC, and approved by the Assistant Deputy Minister;
- (g) a representative from Environment Canada.

### **5.3 RAC Review Co-ordinators**

The Research Technology Section (RTS) shall approve co-ordinators for each research area to assist with: identifying research priorities, reviewing proposals, recommending projects for approval, and providing assistance in monitoring and administering the research program.

Recommended projects shall be reviewed by the Assistant Deputy Minister, Corporate Resources Division for final approval.

### **5.4 Project Control and Reporting**

Liaison officers shall be appointed for each project to perform monitoring and control activities.

Investigators (researchers) shall provide regular progress reports and a final report for each project, in accordance with a formal, signed contract.

### **5.5 Records**

The RTS, shall maintain records, suitable for audit purposes, for each project.

### **6.0 Project Review and Assessment**

Each project will be assessed by intensive review of the liaison officer's reports and the project investigator's interim reports, and by subjecting the final report to scrutiny by a peer committee, as required. An annual review process shall be applied before recommendations for continued funding are made by the RAC.

### **7.0 Utilization and Implementation of Results**

The Research Technology Section shall be responsible for the following activities:

- (a) co-ordinating publication of results, as appropriate;



- (b) facilitating access to research results by interested public and private groups;
- (c) drafting recommendations with the relevant Ministry Branches and Regions for future Ministry action; and
- (d) encouraging the utilization of research results and the application of developed technologies towards the solution of environmental problems.

**PROCEDURE H-4-1**  
**(formerly referenced in 16-08)**

**Research Process**

NOVEMBER 1993

## INTRODUCTION

The purpose of this procedure is to outline the major steps, organizational responsibilities and timing of the Ministry's Research Management Process.

The Research Management Process ensures the identification of research needs and priorities and that the designated resources are appropriately allocated. This will be achieved by the process through integration with the Ministry's Strategic Plan. Specifically, the Research Management Process will ensure that:

- Internally and externally conducted research is consistent with the Ministry's policies, goals and objectives;
- Research expenditures are consistent with identified research priorities;
- Research is undertaken by and administered with the appropriate Branches, Regions, Boards and Advisory Committees;
- Resources are allocated based on Ministry priorities;
- Multi-Branch research programs are appropriately coordinated;
- Research findings are disseminated in a reasonable timeframe and that their implementation is encouraged; and
- Research performance is evaluated against project objectives and for adherence to the planned timeframe.

The Ministry's research program comprises both:

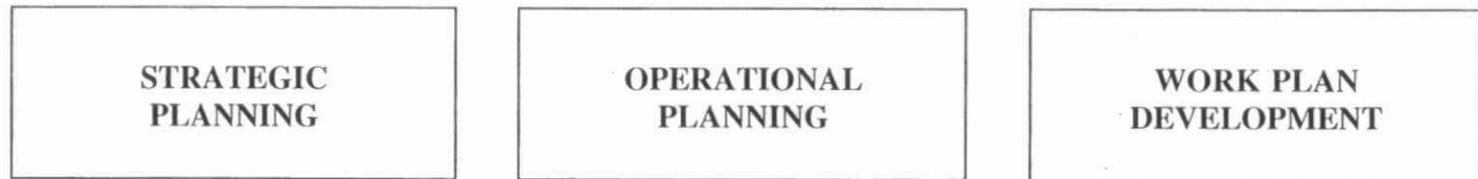
- Internal research projects which are conducted by appropriate Branches or Regions with in-house budget and resource allocations; and
- External research projects (solicited and unsolicited) which are conducted by universities and consultants and which are generally supported by grant and contract awards respectively.

## DEFINITION OF RESEARCH

Research is defined as an investigative study undertaken on a systematic basis to increase the available store of scientific and technical knowledge, and the use of this knowledge in new applications and problem solving.

Routine monitoring programs, technical surveys and the implementation of abatement, measures are, by definition, **excluded** from the research category.

# RESEARCH PLANNING AND MANAGEMENT CYCLE



Step 1

Step 2

Step 3

Identification of Research  
Requirements and  
Development of Research  
Priorities

Evaluation of Proposed  
Research and Allocation of  
Resources

Technology Transfer

**OUTPUT**

"SCIENTIFIC RESEARCH  
NEEDS"

"RESEARCH PLAN"

"ANNUAL REPORT"

TECHNOLOGY TRANSFER  
CONFERENCE

**ONGOING**

Review of research performance, project reports and publications, and the usefulness of research results.

**STEP 1: IDENTIFICATION OF RESEARCH REQUIREMENTS AND DEVELOPMENT OF RESEARCH PRIORITIES**

**Description:** Research requirements and priorities are determined. Consideration is given to information generated from various sources to establish a tentative budget for the allocation of research funds and the Research Needs document for the forthcoming fiscal year.

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
1A - June	<p>Set Ministry research needs and priorities for the forthcoming fiscal year.</p> <p>Usefulness of research results and progress from past and ongoing research will be assessed in establishing updated scientific research needs.</p>	Research and Technology Section Coordinators and Research Advisory Committee (RAC)	<ul style="list-style-type: none"><li>• Strategic Plan</li><li>• Current year's research needs</li><li>• MOEE Research Inventory</li><li>• CCME research priorities</li><li>• OPAC research priorities</li><li>• Resource allocation</li><li>• Internal research capacity</li></ul>	<ul style="list-style-type: none"><li>• Updated Research Needs document.</li><li>• Tentative budget allocations.</li><li>• Tentative Research Plan.</li></ul>

## H-4-1

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
1B - September	Revise and Review Updated "Research Priorities" document.	Research & Technology Section	<ul style="list-style-type: none"> <li>• June consultation</li> </ul>	<ul style="list-style-type: none"> <li>• Approval by senior management.</li> <li>• Publish and distribute "Research Priorities"</li> </ul>
1C - Ongoing	<p>Feedback from liaison officers, review coordinators, line and senior management should be forwarded through the Review Coordinators to the RMO and, if necessary, to the RAC.</p> <p>Feedback should include:</p> <ul style="list-style-type: none"> <li>• current or required research projects;</li> <li>• process/procedural problems; and</li> <li>• other matters worthy of consideration.</li> </ul>	Liaison Officers; Review Coordinators; RTS; RAC.	<ul style="list-style-type: none"> <li>• Comments and suggestions concerning process operation</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing dynamic research management</li> </ul>

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
1D - Annually	Complete and separate review of "Research Priorities" document.	RTS	<ul style="list-style-type: none"> <li>• Strategic plan</li> <li>• Workshop activity</li> </ul>	<ul style="list-style-type: none"> <li>• Contemporary driving force for Research Management Process</li> </ul>

**STEP 2:****EVALUATION OF PROPOSED RESEARCH AND ALLOCATION OF RESOURCES**

**Description:** Proposals are reviewed for technical merit and consistency with identified research needs. Innovative proposals may be considered subsequent to the setting of research priorities. Favourably reviewed proposals are measured against competing proposals for available funding. Final allocations of resources are determined for internal and external research projects.

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
2A - January	Submission deadlines (January)  Classification and distribution of received proposals for examination by appropriate reviewers.	RTS	<ul style="list-style-type: none"><li>• New proposals;</li><li>• Previously approved projects which extend beyond one year</li></ul>	<ul style="list-style-type: none"><li>• Dissemination of proposals for technical review</li></ul>
2B - February	Review of proposals against recognized research needs and proposal evaluation criteria.	Review coordinators and technical reviewers	<ul style="list-style-type: none"><li>• "Research Priorities"</li><li>• Proposals</li><li>• Review criteria</li></ul>	<ul style="list-style-type: none"><li>• Recommendations to RTS</li></ul>



TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
2C - March	<p>Review of proposals and recommendations for approval.</p> <p>The RAC meeting to be preceded by a Co-ordinators meeting where technical merits of a proposal are discussed.</p>	RAC; RTS	<ul style="list-style-type: none"> <li>• MOE policy and strategic plan</li> <li>• "Scientific Research Needs"</li> <li>• Coordinators review</li> <li>• Tentative budget allocation</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Management approval</li> </ul>
2D - April	Prepare Annual Research Plan on basis of January deadline proposal review.	RTS	<ul style="list-style-type: none"> <li>• March approved proposals;</li> <li>• "Scientific Research Needs";</li> <li>• Tentative budget (required resources)</li> </ul>	<ul style="list-style-type: none"> <li>• Report to Division Heads with tentative research plan</li> </ul>
2E - April to May	Review and approval of Annual Ministry Research Plan and required resources.	Senior Management		
2F - June	Evaluation of Research Management Process, problems and procedures. One-day workshop. Revise Procedures and Policy documents.	RAC; RTS; Review Coordinators	<ul style="list-style-type: none"> <li>• Feedback from process users;</li> <li>• RTS;</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Revised Policy and Procedures and distribute accordingly</li> </ul>

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
2G - July	Revise Guideline for Proposal submissions.	RTS	<ul style="list-style-type: none"> <li>• Past guidelines;</li> <li>• User feedback;</li> <li>• Other proposal submission guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Publish and distribute "Guideline for Submission of Research Proposals"</li> </ul>

### STEP 3: TECHNOLOGY TRANSFER

**Description:** During this step, approved projects are monitored through to completion where semi-annual and annual reports are submitted for the Ministry's review. Research summaries are prepared and compiled into an annual research inventory. Research results are made available to the public through annual reports and through reading room access to final reports on an ongoing basis. There is also ongoing contact with researchers and the research community. In early November, the Ministry holds its annual Technology Transfer Conference where selected research findings are disseminated through printed abstracts and proceedings, presentations and poster displays.

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
3A - January	Presentation of past years TTC results to Division Heads.	RTS	<ul style="list-style-type: none"><li>• TTC file<ul style="list-style-type: none"><li>- program</li><li>- feedback</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Approval for next year's TTC and feedback</li></ul>
3B - January to October	Technology Transfer Conference (TTC) preparations* <ul style="list-style-type: none"><li>- tentative hotel bookings (January);</li><li>- prepare RFP and tender for Conference Management contract (March).</li></ul>	RTS	<ul style="list-style-type: none"><li>• Previous year's conference file;</li><li>• Legal services;</li><li>• Purchasing services;</li><li>• Received tenders</li></ul>	<ul style="list-style-type: none"><li>• Tender for conference proceedings administration;</li><li>• Award contract</li></ul>

\* The list of events related to the TTC is not exhaustive nor is it intended to be.

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
	TTC Steering Committee meeting (March).	RTS	<ul style="list-style-type: none"> <li>Feedback from last year's TTC</li> </ul>	<ul style="list-style-type: none"> <li>Proposed Program Committee membership</li> </ul>
	Submission of preliminary lists of proposed papers and poster sessions to RTS (May).	Liaison Officers and Review Coordinators Conference Program Committee	<ul style="list-style-type: none"> <li>Consent from principal investigators</li> </ul>	
	Final selection of papers and poster sessions and notification of principal investigators (Aug. - Sept).	RTS; Conference Program Committee	<ul style="list-style-type: none"> <li>Proposal list</li> </ul>	<ul style="list-style-type: none"> <li>Tentative proceedings</li> </ul>
	Organize publications and presentations for TTC, prepare advance program (July to August).	RTS; Conference Program Committee	<ul style="list-style-type: none"> <li>Tentative program;</li> <li>Communications Branch</li> </ul>	<ul style="list-style-type: none"> <li>Distribute advance program</li> </ul>
3C - August to October	Compilation of past year's funded research by category, internal/external and duration.	RTS	<ul style="list-style-type: none"> <li>Research Summary Reports</li> </ul>	<ul style="list-style-type: none"> <li>Development of an Annual Report</li> </ul>

TIMEFRAME	ACTIVITY	RESPONSIBILITY	INPUTS	ACTIONS/RESULTS
3D - October	Complete and present "Annual Report" to Senior Management.	RTS; Director, Fiscal Planning & Information Management Branch.	<ul style="list-style-type: none"> <li>• Branches and Regions;</li> <li>• Review Coordinator;</li> <li>• RAC;</li> <li>• OPAC</li> </ul>	<ul style="list-style-type: none"> <li>• Publish and distribute "Annual Report"</li> </ul>
3E - October - November	Review and printing of abstracts, papers, keynote speeches and proceedings for TTC.	RTS; Review Coordinators; Liaison Officers	<ul style="list-style-type: none"> <li>• Speeches/ abstracts and papers from conference presenters</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution of materials prior to and at TTC</li> </ul>
3F - November	Technology Transfer Conference proceedings.	<ul style="list-style-type: none"> <li>• RTS;</li> <li>• RAC;</li> <li>• Communications Branch;</li> <li>• Conference Steering Committee;</li> <li>• Review Coordinators</li> </ul>		<ul style="list-style-type: none"> <li>• Dissemination of research results</li> </ul>

**RESEARCH ADVISORY COMMITTEE**  
**MEMBERSHIP**

**CHAIR:** Director, Fiscal Planning and Information Management Branch

Manager, Research and Technology Section

Co-ordinator, Environmental Research Program

Executive Secretary from RTS

Selection of MOEE Program & Regional Directors (membership reviewed annually)

Chairman, Pesticides Advisory Committee

Regional Director, Ontario Region, Environment Canada

## RESEARCH & ADVISORY COMMITTEE

### TERMS OF REFERENCE

To provide advice to the Minister, Division Heads and the Research and Technology Section on the following issues:

- research planning and management policy;
- procedures for the management and evaluation of research activities;
- research needs, priorities and a research strategy, and the types of research to be undertaken by the appropriate Branches, Regions, Boards and Advisory Committees;
- levels of resources which the Ministry should devote to research activities, and adequate funding levels for the Ministry's ongoing research requirements and priorities;
- support of suitable, high quality proposals submitted by external institutions and agencies, and by Ministry Branches, Regions, Boards and Advisory Committees.
- procedures for the early dissemination of research findings and to foster their implementation; and
- research activity are consistency with Ministry policies, goals and objectives.

## RESEARCH & TECHNOLOGY SECTION

### TERMS OF REFERENCE

1. To coordinate the identification and evaluation of the research needs of the Ministry.
2. To coordinate and administer the planned development of the Ministry's internal and external research programs conducted through various Branches, Regions, Advisory Committees and external institutions and agencies.
3. To chair and provide administrative support for the Research Advisory Committee.
4. To coordinate the activities of the Research Areas and review coordinators in their roles of providing technical support and research planning input for the Ministry.
5. To monitor externally funded research performance.
6. To encourage the application of research results obtained through Ministry sponsored projects and reports to policy formulation and technology transfer.



## REVIEW COORDINATORS

### TERMS OF REFERENCE

1. Based on input from appropriate staff and utilizing the best available expertise, the review coordinator's role is:
  - (a) to make recommendations on the research requirements in his or her respective program area and to recommend research priorities;
  - (b) to coordinate the technical review of research proposals submitted for funding by external institutions and agencies;
  - (c) to make recommendations, based on the reviewers' comments, on the technical merit of submitted research proposals;
  - (d) to make recommendations on the suitability of internal and external research proposals relative to established Ministry research priorities.
2. To nominate a knowledgeable liaison officer for each project in their respective areas, and to ensure that the liaison officer is apprised of his or her responsibilities with respect to project progress, budget and performance monitoring.
3. To provide technical support to the Research Advisory Committee and/or the Research and Technology Section required.

## PROJECT LIAISON OFFICERS

### TERMS OF REFERENCE

The Liaison Officer is appointed by his/her Branch/Regional Director with the approval of RAC and is committed to project management duties which include:

1. Preparation of:
  - (a) Terms of Reference and Request for Proposal for tendered projects;
  - (b) Contract or grant letter of agreement;
  - (c) Work schedule for grant or contract projects;
  - (d) Comments on the news release prepared by Communications Branch.
2. Chairing a Steering Committee for projects which receive funding in excess of \$100,000 per year.
3. Provision of effective liaison between MOEE and Project Investigator.
4. Obtaining interim and final reports, and papers to be presented at MOEE's Technology Transfer Conference and conducting an evaluation of same.
5. Requesting statements of expenditure/cash flow from universities and consultants prior to end of each MOEE fiscal year, and presenting it with recommendations for continuation or termination of funding to the Research and Technology Section.
6. Authorization of contract invoices and obtaining Research and Technology Section approval of payment.
7. Obtaining through Research and Technology Section, approvals for any changes to a project plan or schedule.
8. Maintaining a list of major equipment purchased from grant/contract funds and ensuring its transfer together with the developed technology to MOEE, or loaning to project investigator(s).
9. Making presentations at RAC or other MOEE committees on final reports or project progress when requested.

10. Preparing project Scientific Research and Development Inventory forms.
11. Responding in cooperation with Communications Branch to public and media inquiries on project findings.
12. Recommending the means for technology transfer and utilization of project results as well as further research needs emerging from the project.

**GUIDELINE H-5**  
**(formerly 16-09)**

**Public Consultation**

**Legislative Authority:**

*Environmental Protection Act*  
*Environmental Assessment Act*  
*Environmental Bill of Rights*  
*Ontario Water Resources Act*  
*Pesticides Act*

**Responsible Director:**

Director, Public Affairs and Communications Branch

**Last Revision Date:**

April, 1994

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## SYNOPSIS

Public consultation is a process involving interactive or two-way communication between the Ministry and the public, through which both become informed about different perspectives on issues and proposals, providing the public with the opportunity to influence decisions to be made by the Ministry.

The purpose of this guideline is to:

- (a) clearly define public consultation;
- (b) identify the key players in it;
- (c) describe the public consultation process; and
- (d) provide guidelines for using public consultation.

*The Environmental Bill of Rights (EBR)* establishes a procedure for notifying the public when environmentally significant decisions are proposed by prescribed government ministries. The *EBR* does not duplicate existing public participation processes for environmentally significant decisions, but establishes the minimum level of public notice and consultation.

### 1.0 Definitions:

#### 1.1 Modes of Public Involvement:

The Ministry involves the public in decision-making about environmental issues and programs through consultation, participation, mediation and arbitration. To avoid misuse and confusion, it is important to be clear about the differences between these modes of involvement.

#### Consultation:

The sponsor retains the decision-making authority but consults the public and stakeholders to seek input which may influence and improve the decision

#### Participation:

The sponsor delegates limited decision-making to a group of stakeholders in order to move toward a consensus on key areas where there is disagreement among the stakeholders

#### Mediation:

The sponsor facilitates or negotiates agreement among stakeholders about an environmental issue which has a high degree of controversy

**Arbitration:**

Stakeholders and the sponsor may agree to delegate decision-making authority to a third party in cases where the decision has a high degree of controversy and consensus is unlikely using other modes of involvement

**1.2 Consultation Key Players:**

The key players in public consultation include the public, stakeholders, the sponsor, the proponent and the approval authority.

**Public:**

Any person or group other than the Ministry or the consultation sponsor

**Stakeholder:**

Member of the public who may be directly or indirectly affected by the decision

**Sponsor:**

A person, group or organization, including the Ministry, which has promulgated a proposal and consults the public to assist in environmental decision-making

**Approval authority:**

The government body or official Ministry person, committee, board or other decision-making body responsible for making the final environmental decision on the sponsor's application or proposal.

**2.0 Statement of Principles:****2.1 Purpose:**

The purpose of this guideline is to:

- (a) clearly define public consultation;
- (b) identify the key players in it;
- (c) describe the public consultation process; and
- (d) provide guidelines for using public consultation.

Effective public consultation is required because it:

- (a) allows the Ministry to take into consideration the public's views and priorities;
- (b) improves the quality and effectiveness of environmental decisions; and
- (c) enhances the public's understanding of environmental issues and activities.

## **2.2 Scope:**

Public consultation may be a part of decision-making processes for four Ministry program areas:

- (a) program development;
- (b) pollution control, abatement and prevention;
- (c) environmental assessments and approvals; and
- (d) environmental master planning.

## **2.3 Principles:**

The following principles will guide the Ministry's public consultation programs:

- (a) The appropriate level of consultation shall be defined early in the program, based on the specific requirements of the situation. The four levels of consultation are:
  - comment,
  - dialogue,
  - agreement, and
  - consensus.
- (b) The Ministry shall carry out public consultation in an objective, open, fair and responsible manner, within reasonable time-frames and with consideration of the cost to all key players.
- (c) Public consultation requirements shall be incorporated into the Ministry's decision-making processes.
- (d) Evaluation of public input shall include consideration of:
  - (i) the relationship to government policy;
  - (ii) local, regional and provincial interests;
  - (iii) technical feasibility; and
  - (iv) potential impacts on stakeholders.
- (e) The objectives and scope of each consultation process shall be made clear at the beginning. This shall include how and when the public will be consulted.
- (f) The public shall be provided with a response outlining how its input was considered in the Ministry's final decision.

## **3.0 Guidelines for Consulting the Public**

Procedure H-5-1: "Public Consultation Guide" (January 1994) is available from the Ministry's Public Information Centre. Its key points are summarized here.



### 3.1 Levels of public consultation

There are four levels of public consultation. They are listed here in order of the increasing degree of interaction required.

- (a) comment: when the sponsor is seeking public input only;
- (b) dialogue: when the goal of the consultation is to provide a forum for identifying and discussing issues, but not necessarily resolving them;
- (c) agreement: when the consultation process is used to identify common ground among stakeholders and to isolate unresolved issues; and
- (d) consensus: when the consultation is used to resolve issues among stakeholders.

### 3.2 Key Phases and Tasks:

Effective public consultation requires the successful completion of three phases and ten tasks:

Phase 1: Design - The terms of reference for the consultation shall be defined and a consultation plan designed. The plan includes:

- Task 1: Analyze situation.
- Task 2: Identify decision making process.
- Task 3: Create strategy.
- Task 4: Identify stakeholders.
- Task 5: Selection and schedule activities.

Phase 2: Consultation - This is the consultation phase of the public consultation process.

- Task 6: Inform public. Proper notice shall be given to stakeholders and the public. They should also receive background information so they can understand the decision(s) at stake.
- Task 7: Consult public. Through the activities identified in the plan, the public shall be consulted and all comments and participation shall be recorded.
- Task 8: Analyze input. The input gathered during the consultation activities shall be analyzed and compiled into a report.

Phase 3: Feedback. Consideration shall be made on how to report the results of the public consultation to the decision-maker in order to influence the final decision. As well, the participants shall be informed of the final decision and how their participation influenced the decision.

- Task 9: Influence decisions. The participation and input information shall be presented to the sponsor's decision-makers for consideration. In turn, the sponsor's decision-makers shall present the consultation information to the approval authority as part of their proposal.

Task 10: Feedback. The public requires feedback, from both the sponsor and the approval authority, on how their input influenced the decision.

#### **4.0 Public Consultation Processes in Ministry Program Areas:**

Public consultation processes may run parallel to the associated decision-making processes. The relevant programs and activities are presented here, by Ministry program area:

##### **4.1 Program development:**

- (a) major initiatives,
- (b) new and amended legislation,
- (c) new and amended regulations,
- (d) environmental standards,
- (e) ministry policy and guidelines, and
- (f) hazardous waste classification and review

##### **4.2 Pollution control, abatement and prevention:**

- (a) municipal pollution abatement,
- (b) industrial pollution abatement,
- (c) Control Orders,
- (d) pollution prevention,
- (e) environmental clean-ups,
- (f) emergency response, and
- (g) site decommissioning.

##### **4.3 Environmental assessments and approvals:**

- (a) class EAs,
- (b) waste management EAs,
- (c) municipal EAs, and
- (d) Certificates of Approval

##### **4.4 Environmental master planning:**

- (a) waste management planning,
- (b) land use planning,
- (c) toxics management planning, and
- (d) remedial action plans (RAPs).

Legislation, regulations or guidelines may establish a minimum standard for public notice. The extent of public consultation is usually at the discretion of the responsible Director.

## **5.0 Environmental Bill of Rights (EBR)**

The EBR provides the public with more opportunities to participate in environmental decision-making and will give the public enhanced access to the courts.

The EBR establishes a procedure for notifying the public when environmentally significant decisions are proposed by prescribed government Ministries. The EBR does not duplicate existing public participation processes for environmentally significant decisions, but establishes the minimum level of public notice and consultation.

The EBR will not duplicate public participation processes. For example, the *Environmental Assessment Act (EA Act)* already has a public participation process in place which meets or exceeds the requirements of the EBR.

### **Electronic Registry:**

The public will be able to access information through a computerized bulletin board of the prescribed ministries' proposals for policies, Acts, regulations and instruments.

The Registry is being developed to be accessible by modem from a home computer or a local public information centre.

The public may provide comments to a Ministry on proposals found in the Registry.

## **5.1 Statement of Environmental Values:**

Each Ministry subject to EBR will create a draft Statement of Environmental Values stating how it will take the environment into account in its decision-making. There will be 14 ministries subject to some EBR provisions:

- Agriculture and Food
- Consumer and Commercial Relations
- Culture, Tourism and Recreation
- Economic Development and Trade
- Environment and Energy
- Finance
- Health
- Housing

Labour  
Management Board  
Municipal Affairs  
Natural Resources  
Northern Development and Mines  
Transportation

## **5.2 Proposals for Acts, Regulations, Instruments**

Public notice will be provided on the Registry of proposed Acts, regulations, instruments which are of environmental significance.

During the minimum 30-day notification period, the public may provide written comments on these proposals to the appropriate Ministry, which must consider and respond to these comments (other participation rights may also be provided by Ministries).

When a decision is made regarding the proposal, it is placed on the Registry.

## **5.3 Public Appeals:**

Any resident can seek leave to appeal a decision to issue a Class I or II instrument within 15 days of its being placed on the Registry.

To seek leave to appeal:

- (a) a person must demonstrate that he or she has an interest in the decision (for example, that the person had commented while it was posted on the Registry or that he or she lives close to the site, etc.); and,
- (b) a person must demonstrate the decision is unreasonable, and that significant environmental damage would occur if the decision was not changed.

If the leave to appeal is granted, the instrument is 'stayed' (suspended) until the hearing of the board, unless the board orders otherwise.

## **6.0 Public Consultation Policy by Ministry Activity:**

### **6.1 Comprehensive new programs and major revisions to existing ones covering broad areas of policy**

The Ministry shall consult the public on proposed major program initiatives.

The consultation programs can involve a range of approaches, depending on the nature of the decision.

In the case of inter-jurisdictional initiatives, public consultation shall be covered by specific policies and agreements developed by the parties involved.

## **6.2 New and amended legislation**

The procedures for tabling and considering bills by the Legislature include opportunities for public consultation. Normally the public is informed when a bill is tabled. The Ministry, with Cabinet approval, may get public input on specific legislative initiatives before the bills are introduced in the Legislature.

## **6.3 New and amended regulations**

Generally, the Ministry provides an opportunity for the public to be informed about, and comments on, proposed regulations. In the case of draft regulations, the notification by the Ministry shall include:

- (a) a brief description of the regulation and its intent;
- (b) the source of copies of the draft regulation and background information; and
- (c) information on how the public can provide comments.

Once a regulation is made and filed with the Registrar of Regulations, the Ministry shall make it, and a summary of the public's comments, available in Ministry Head Office and Regional Public Reading Rooms and at all District Offices. All Regulations shall be published in the "Ontario Gazette" and available in public libraries throughout the province.

In some cases, the Ministry may consult the public on regulations at an earlier stage through consultation done on other programs (e.g., major program initiatives which require regulations). For regulations likely to interest the public, the Ministry may use additional consultation activities.

In most cases, the Ministry may not consult the public on regulations that are minor or administrative or when immediate action is required. The Ministry shall provide subsequent notification to the public through publication in the "Ontario Gazette" and other means.

Specifically, in the case of pesticide regulations, the Ontario Pesticides Advisory Committee (OPAC) shall review new products and make recommendations to the Minister on "interim status" classification each month. These approved interim classifications will be published in the "Ontario Gazette" and pesticide client groups shall be sent notices. Interim classifications shall be in effect up to 18 months. During this period, the public may comment. After this period, the interim classification shall be:

- (a) revoked

- (b) suspended
- (c) given further interim status, or
- (d) given full classification by regulation.

#### **6.4 Environmental standards for contaminants to protect human health and the environment**

The Ministry shall provide the public with an opportunity to contribute to the development of environmental standards for contaminants through the Advisory Committee on Environmental Standards (ACES). ACES is responsible for reviewing the scientific information, consulting with the public and considering other relevant information in making recommendations. The public shall be notified of ACES recommendations to the Ministry and of how their comments were considered. The Ministry has the option of directly consulting with the public.

The Ministry may set an interim standard without public consultation in cases the Ministry judges to be necessary. In these cases, the Ministry shall inform the public of the interim standard and consult the public through ACES as the final standard is developed.

#### **6.5 Certificates of Approval and Permits**

Information developed or received by the Ministry related to Certificate and Permit applications shall be available to the public for comment, except when there are legal constraints, such as imposed under the *Freedom of Information and Protection of Privacy Act*. There will be selective public consultation on applications for Certificates of Approval and Permits. Criteria will be established to identify the special circumstances when a public consultation program is required.

Public consultation shall, at a minimum, include notification and provide an opportunity for the public to submit written comments. Additional consultation activities may be performed as needed. Once the Ministry makes the final decision, all stakeholders shall be notified of the decision and how the public's input was considered.

#### **6.6 Environmental Assessment**

The Ministry actively encourages all sponsors of proposed undertakings to consult with all interested and potentially affected stakeholders in the development of the formal environmental assessment submission required under the *EA Act*, as specified in Guideline E-2: "Pre-submission Consultation in the Environmental Assessment Process".

When the Ministry prepares EAs or exemption requests for its own undertakings, public consultation shall be done using the Guideline E-2.

The Environmental Assessment Advisory Committee consults the public on designation and exemption requests and other matters as directed by the Minister.

### **6.7 Pollution Abatement Program**

Guideline F-2: "Compliance" discusses the tools available to the Ministry to encourage, or require the correction of, current and potential environmental problems. The guideline also describes appropriate public consultation and notification and discusses factors Ministry staff shall consider when designing a public consultation program. These factors include the particular situation in need of abatement and the larger community environment.

In cases where a program approval or a legally enforceable abatement tool (e.g., Control Order) is used, the Ministry shall notify the public by giving copies of the document to:

- (a) the clerks of the local municipality,
- (b) the upper tier municipality, and
- (c) the appropriate Member of Provincial Parliament (MPP).

The Director may also notify the public by other means.

### **6.8 Site decommissioning and abandoned sites**

When the Ministry assumes the lead role in the decommissioning of a site or clean-up of an abandoned site, the Ministry shall inform the affected public of its activities on an ongoing basis and ask for public comment on issues with significant environmental or public impact consistent with Ministry guidelines.

The Ministry actively encourages other sponsors of site decommissioning/abandoned site projects to inform and consult with the public as specified in its Guideline C-15: "Decommissioning and Clean-up of Sites" (under revision).

Guidelines and procedures the Ministry uses to fulfil its mandate:

The Ministry shall provide public access to its "Manual of Guidelines and Procedures" and other Ministry guidelines. These documents shall be available at the Ministry Head Office and Regional Reading Rooms and at all District Offices.

Guidelines likely to interest the public shall be adopted and implemented on an interim basis for six months. During this period, the public shall be notified and invited to comment in writing. Copies of the interim guidelines shall be available to anyone on request.

Emergency activities by the Ministry to protect life, property and the environment:

Along with its responsibilities in responding to emergencies and spills, as defined in G-1, the Ministry shall ensure that the public is notified of emergencies and moderate and major spills

as soon as possible. The manner and form of notification in each case shall be determined by:

- (a) the size and nature of the emergency or spill,
- (b) the risk to the affected public, and
- (c) the action required to deal with the emergency or spill.

When the Ministry is involved in ongoing remedial activities following an emergency or spill, the Ministry shall ensure that the public is notified of these activities and may ask the public for input.



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